# DRSS USER MANUAL

# VERSION 3.11

# AND ABOVE

PREPARED FOR **All Users of DRSS Version 3.8**

DATES **14/02/2008**

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## Document Information

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# Orion DRSS

## User Manual

Version 3.8

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# INTRODUCTION

This DRSS (Diabetic Retinal Screening Solution) user manual is intended for users of version 3.8 of the application. This document is intended to cover all aspects of the user interface. It is not a technical document and does not cover installation, configuration or system requirements. The document covers general user guidance and functionality of the application, however no specific business processes are discussed therefore users will need to have a good understanding of their own procedures when using the application as not all topics covered in this manual will apply to all users of the application.

New users of the application should attend a customised training course which will concentrate on that individual's job role and the aspects of the application they will be using. Customised training by a CliniSys application trainer can be organised by contacting your CliniSys project manager; alternatively in-house training can be given by one of your own product specialists.

No previous knowledge of this or any other release of the application is necessary however it is assumed that users will have basic computer keyboard and mouse skills. This manual has been divided into chapters covering specific functionality of the application which should also tie in with your own job role or patient journey; therefore you should be able to refer to the chapter of the manual you are interested in without prior knowledge of previous chapters. This approach will involve some repetition to anyone reading the manual from cover to cover.

Other training materials available include face to face training with course notes; exercises and presentations available on CD and an interactive computer based training aid with video clips and self evaluation quizzes which is currently undergoing development. If you would like a copy of the CBT CD when it is available then please contact the CliniSys support team on 01633 486300 or email them at diabetessupport@clinisys.co.uk

# LOGGING ON/OFF

**Figure 1**

Before you can start you must locate the Orion DRSS icon. Your system installer should have set you up with a desk top icon, labelled 'Orion DRSS' like the one seen in figure 1. If you cannot see this icon you can find it in the following folder C:\DRSS\Runtime\Exe\DRSS.exe. To make logging on in future easier, create a shortcut on your desktop; to do this right click and drag the icon to your desk top when you release the mouse, select *create shortcut here* from the shortcut menu. If you cannot find the icon in this location please contact your system administrator.

After locating the Orion DRSS icon, double click to open the logon screen (fig 2). From here you can see the version and release number of your copy of Orion DRSS. This manual refers to version 3.8. If your copy is prior to this then please contact your system administrator and request an upgrade.

You now have just 3 fields to fill in before you can access the application. This information should have been issued to you by your system administrator.

**WARNING – It is important that you don't share your instance of being logged on or your passwords with other users. Sharing instances of your logon will result in your name being logged against other user's actions**

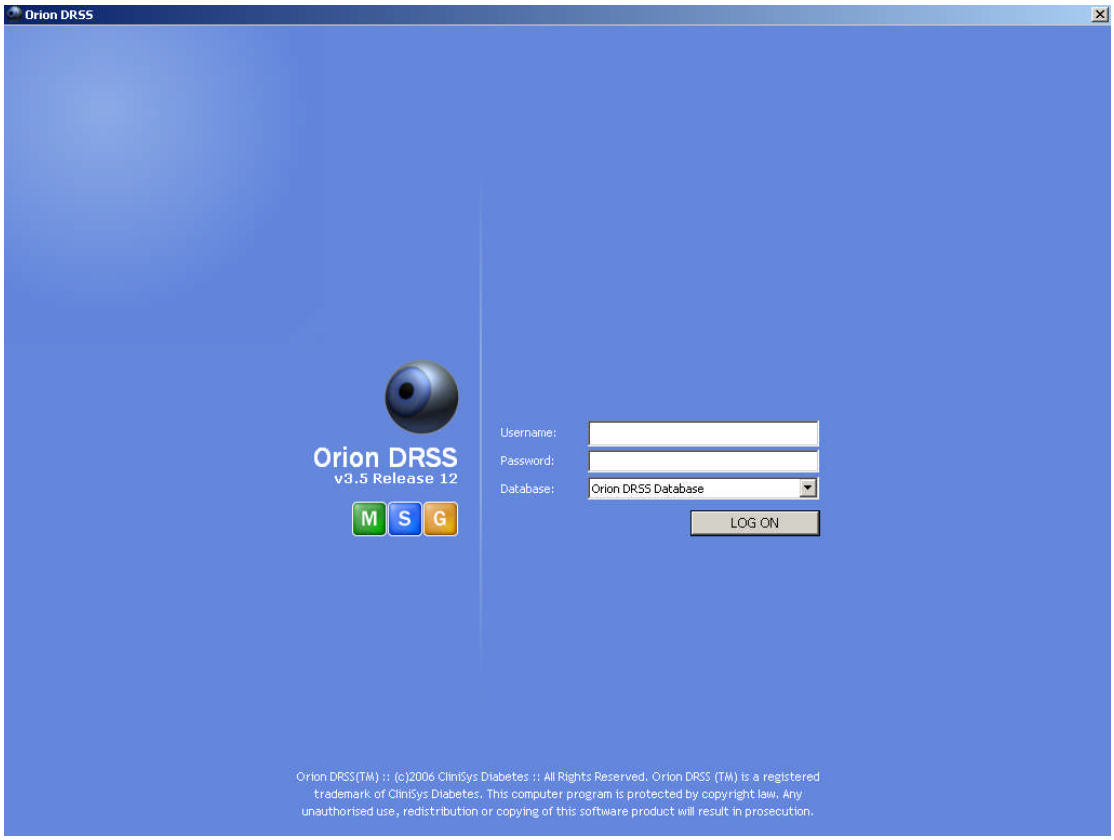
Orion DRSS
Orion DRSS
v3.5 Release 12
M S G
Username:
Password:
Database:
Orion DRSS Database
LOG ON
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**Figure 2 Log on screen**

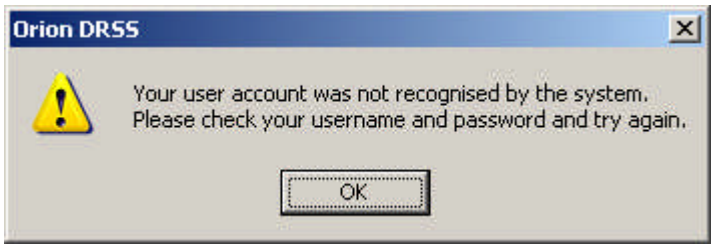
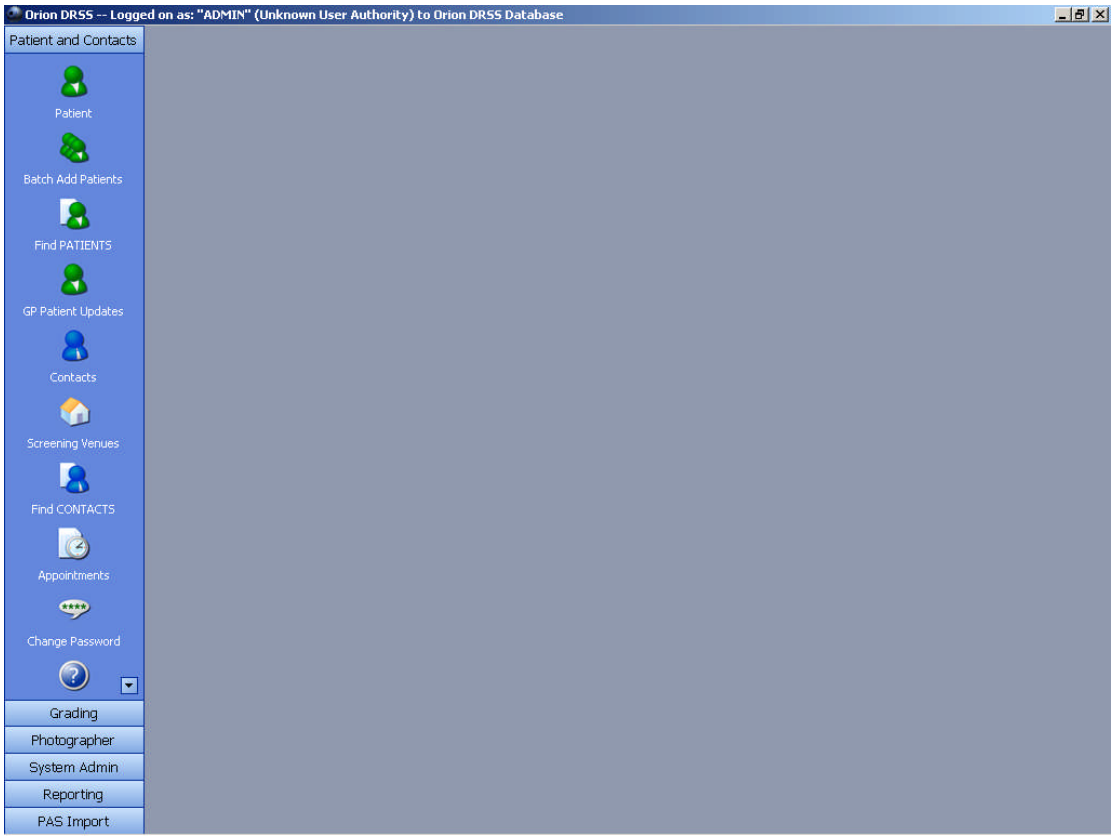



**Figure 3**

You are now ready to enter your '**Username**' Note: this is not case sensitive. Now enter your '**Password**' Note: this **is** case sensitive therefore must be typed exactly as issued to you. If you type either your **Username** or **Password** incorrectly, this will result in the appearance of the message box shown in figure 3. You can have up to three attempts to logon before the application will reject your attempts and close the logon screen. If this happens repeatedly please contact your system administrator and request your password be reset. If your password is difficult to remember, you will have the opportunity to change your own password once logged on. To see how to change your own password refer to the Changing Your Password section. Finally you should select the **Database** you would like to access. The default database will normally be the correct option but can be changed if you have access to several databases (you will be informed if you do have access to more than one database). Now click on the Log on button to access the application. Your screen should now look similar to the one in Figure 4.




**Note**: Your access rights will determine which group of icons you have on display by default. You can change the group shown on the left by clicking on the group header.

# Logging off

Now that you are logged into Orion DRSS you can choose several ways to log off again.

**Note:** it is important to save any work you are doing before you exit the application.

**Figure 4**

Orion DRSS is a windows based program therefore you can use the standard Maximise, Minimise, Restore and Close buttons located at the top right hand side of each window (see Fig 4). Using the X (close button) within a window will close just that window and using the close button of the application will close the entire application.

As well as the standard windows close button, Orion DRSS has its own built in *Log Off* icon. This can be seen as the bottom icon in the *Patient and Contacts* group. Use this icon when ever you need to switch users. Clicking on this icon will return you to the logon screen (Fig 2) you can then either enter another user name and password, to allow another user instance, change the database you are looking at by selecting another database from the database dropdown box or exit the application all together by then clicking on the windows close button (Fig 4).

# OVERVIEW OF DRSS

Now that you can successfully log in and out of the Orion DRSS application, let me give you an overview of the application before we get too involved with any specifics. As we have seen already, the Orion DRSS application is Windows based therefore you will find that there are very often several ways of achieving the same goal. This manual with show and explain a good methodology for each process however you may well find your own way of achieving the same goal e.g. right clicking the mouse will often reveal a shortcut menu.

Many individuals would be involved within a normal eye screening service, each with their own jobs and responsibilities. The Orion software reflects this by including a comprehensive level of user authority profiles. This in affect means that each user potentially could have access permissions to different parts of the application or be taken to different menus when logging on. How the authorities are set up will be discussed in detail in the *System Admin Tools* chapter but for now, this training will cover all aspects of the application however you may not necessarily have access to all the features discussed in this document. If you feel you should have access to specific areas but don't, please contact your system administrator.

This application is an end to end solution, covering all aspects of the eye screening process. This includes importing patient data, call and re-call of patient appointments, through to screening, capture and grading. The chances are that you will only be involved with part of this overall process however it is important to remember that how you use the application will affect other users. A key point of any I.T. project is that all users sing from the same song sheet (use the same options and terminology in text boxes) in order for all departments to see and understand the full picture of the patients journey. A typical example of this would be entering patient notes; there are several areas within the application where notes can be entered, each for different purposes. Your business process should clearly state which areas should be used for which purpose and which drop down options should be used to define which status and which fields your trust consider mandatory. E.g. do you require patient ethnicity and how will you record DNA's?

Many of the features and techniques used are consistent throughout the application. I will cover a few of them here.

# Navigation

## General Navigation

System menus are in the form of labelled icons down the left hand side of the screen. Menus are in groups:

| Menu Group: | Menu Icons: | Navigates to: |
|---|---|---|
| Patient & Contacts | Patient | Patient Demographic Screen (First record) |
| Patient & Contacts | Batch Add Patients | Patient Demographic Screen (Edit mode) |
| Patient & Contacts | Find PATIENTS | Patient Query Builder |
| Patient & Contacts | GP Patient Update | Patient GP Update Screen |
| Patient & Contacts | Contacts | Group Details Screen |
| Patient & Contacts | Screening Venues | Screening Venues Screen |
| Patient & Contacts | Find CONTACTS | Contacts Query Builder |
| Patient & Contacts | Appointments | Appointments & Scheduling Screen |
| Patient & Contacts | Change Password | Change Password Screen |
| Patient & Contacts | Help | About DRSS Dialog Box |
| Patient & Contacts | Log Off | DRSS Log On Screen |
| Grading | Request Grading | Request Remote Grades Screen |
| Grading | Grade Images | Query Builder For Captured Images (Image status = At my level or below) |
| Grading | Image Library | Query Builder For Captured Images (Image status = All) |
| Grading | Grading Reports | Grading Reports Query Builder |
| Photographer | Import | Import Screen (Preceded with DRSS Importer applet) |
| Photographer | Export | Export Query Builder |
| Photographer | Export DRSS | Import/Export DRSS Data dialog box |
| Photographer | Capture | Capture query screen |
| System Admin | Resource info | Capture Resource Information Screen |
| System Admin | Controlled Vocab | Controlled Vocabulary Screen |
| System Admin | Vocabulary link | Controlled Vocabulary Links Screen |
| System Admin | Admin Functions | Admin Function Screens |
| System Admin | Grading Rules | Grading Rules Screen |
| System Admin | Grade Admin | Grading Administration Screens |
| System Admin | Camera Admin | Camera Setup Screen |
| System Admin | Stock Library | Stock Image Library Administration |
| System Admin | NACK Reports | NACK Report Screen |
| Reporting | CSV Export | Patient Mail Merge CSV Generator |
| PAS Import | [Empty] | None |

In order to navigate to your required screen, select the menu group you require by left clicking on the pale blue title of the group (figure 5).

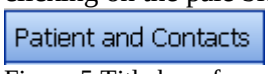



Figure 5 Title bar of menu group

The group will expand and the icons within the group will become visible. To open your desired screen, single click the appropriate icon. See the table above to confirm which icon navigates to your required screen.

## Common Features

The DRSS software contains several features that are common throughout the application.

- Adding/Editing Screens

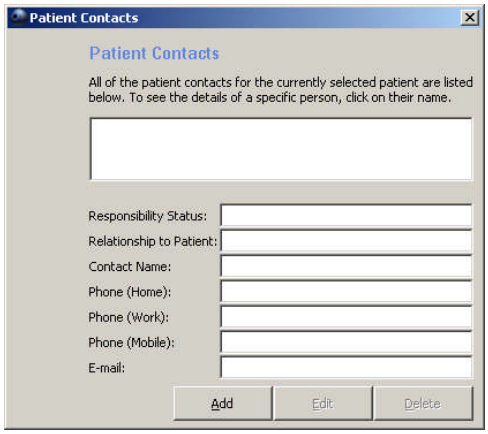



**Figure 7 Form in view mode**

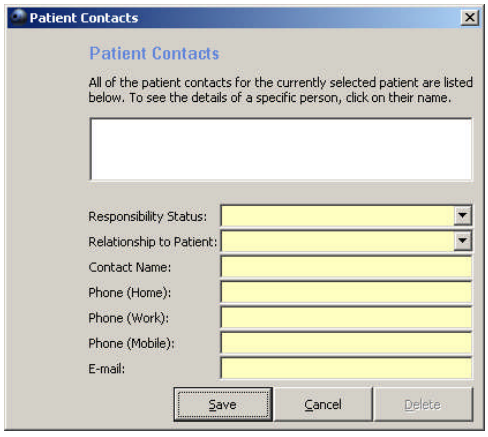



**Figure 6 Form in edit mode**

When opening forms throughout DRSS the field's colour is initially white as seen in figure 7, In this mode the form is "view only" and before you can enter or edit data you need to click the Add or Edit buttons at the foot of the form. When you do this the field colour becomes cream as seen in figure 6 and often many of the fields become dropdown selection fields. You can now edit the form, then click the Save button to save your work.

- Date fields

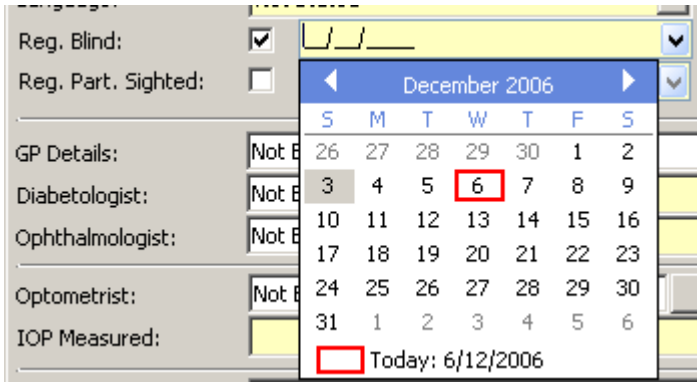

Reg. Blind:
Reg. Part. Sighted:
GP Details:
Diabetologist:
Ophthalmologist:
Optometrist:
IOP Measured:
December 2006
S M T W T F S
26 27 28 29 30 1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31 1 2 3 4 5 6
Today: 6/12/2006

**Figure 8 Date field calendar**

Date fields throughout the application have a calendar dropdown as seen in figure 8. Dates can be entered long hand by using a standard dd/mm/yyyy format. You can also click the blue dropdown field to the left of the field; this will activate the dropdown calendar, showing the current date. To navigate the calendar, click the right and left arrows in the month bar at the top of the calendar, click the desired date to populate the date field and close the calendar.

# Changing Your Password

All users of the application will be issued with their own unique username and password. It is important that users always use their own password to log into the application as their details will be logged against activities whilst logged in. The application accounts can be set up in a number of ways (from within system setup) e.g. passwords not to expire, force user to change password after a set number of days or accounts to be enabled and disabled between dates. How this is done will be discussed in the system administration section of this manual. However users will have the opportunity to change their own password to one that is more memorable to them.

Change Password
Change System Password
You can change the password you use to log into the Orion DRSS software. Enter your old password and new password into the boxes below.
Old Password:
New Password:
Confirm:
Apply Password
Cancel

**Figure 9 Password dialog box**

To change your password click the "Change Password" icon, found in the "Patient & Contacts" group. The "Change Password" dialog box will open as seen in figure 9. Type in your old password then type your new password, now type it again to confirm and click on the Apply Password to save the changes. As you type your new or confirmed password the characters will be represented with **** asterisks, this is to prevent onlookers observing your password. Your new password is now set and you will need this the next time you log into the system.

**Note: You are the only person who knows your password, if you forget your password it will need to be reset by your system administrator.**

# SETTING UP GROUPS & CONTACTS

Within the DRSS application is a groups and contacts section, this is intended to store contact information such as Clinics (Groups) and GP's (Contacts), you can also store user contact information such as Ophthalmologists or Photographers. This information can be used like a "Yellow Pages" of contacts; and is also used to link patients to specific GP's or surgeries. Contact information can be added at any time however it would be useful to add all your surgeries and GP's before going live with the application, this is so that when adding patients, the GP for the patient is already in the application. If you have this information in an electronic format it can be imported using the CSV importer. For instructions on the importer see the CSV Importer section under the linked application section at the end of this manual. This section will concentrate on adding Groups and Contacts manually.

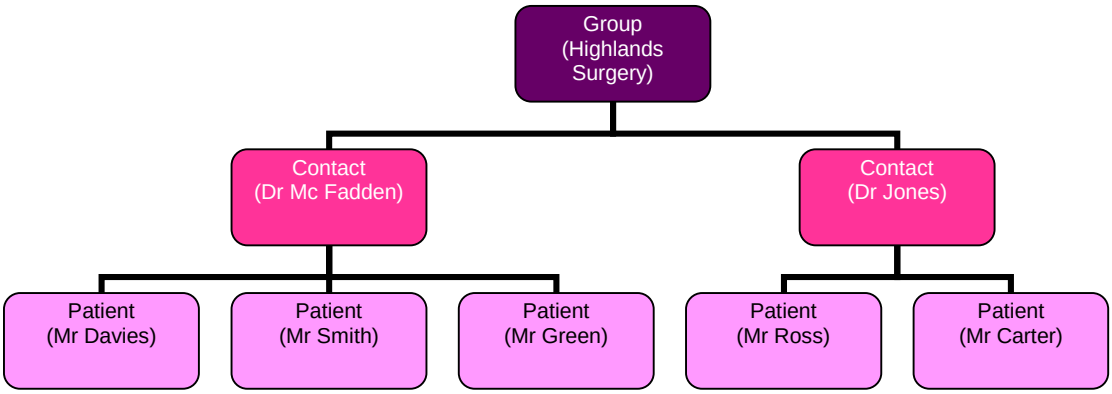



**Figure 10 Groups & Contacts Structure**

Above is a typical structure of groups and contacts. The group is the top of the structure and would typically be the Surgery/ Hospital or Clinic whilst below that would be the contacts within that group e.g. GP, Practice Manager, or Receptionist. Further down would be the names of patients linked to the GPs, Dialectologist or Ophthalmologist.

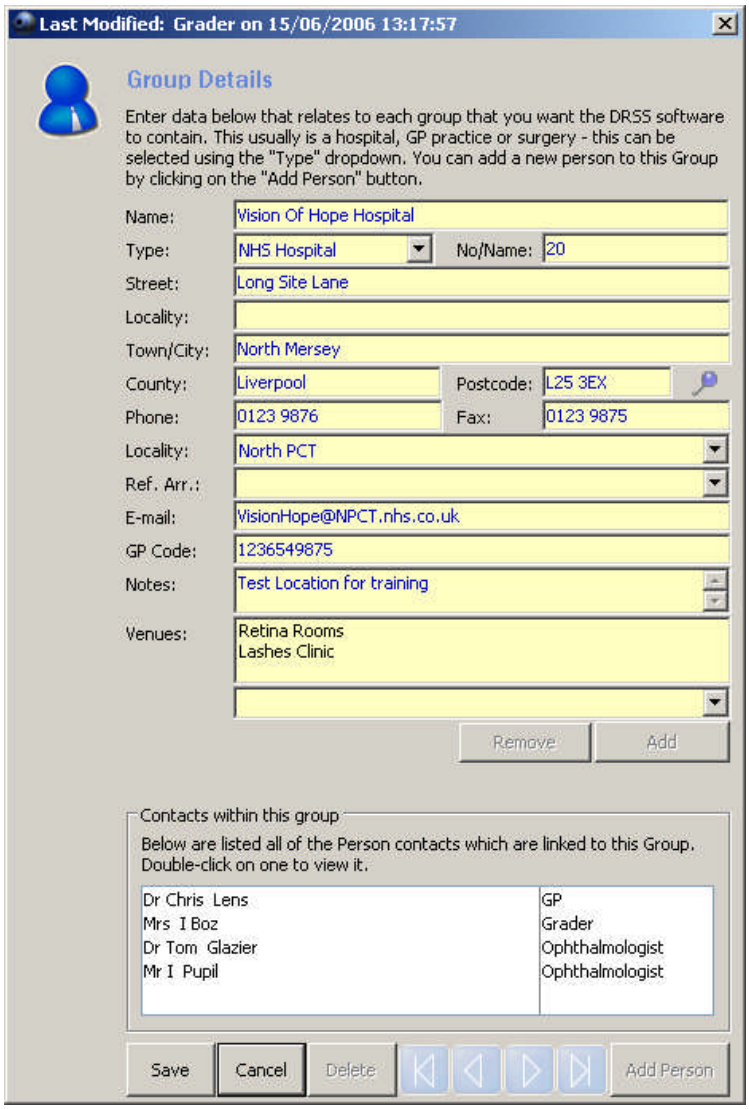

Last Modified: Grader on 15/06/2006 13:17:57
Group Details
Enter data below that relates to each group that you want the DRSS software to contain. This usually is a hospital, GP practice or surgery - this can be selected using the "Type" dropdown. You can add a new person to this Group by clicking on the "Add Person" button.
Name: Vision Of Hope Hospital
Type: NHS Hospital
No/Name: 20
Street: Long Site Lane
Locality:
Town/City: North Mersey
County: Liverpool
Postcode: L25 3EX
Phone: 0123 9876
Fax: 0123 9875
Locality: North PCT
Ref. Arr.:
E-mail: VisionHope@NPCT.nhs.co.uk
GP Code: 1236549875
Notes: Test Location for training
Venues: Retina Rooms
Lashes Clinic
Remove
Add
Contacts within this group
Below are listed all of the Person contacts which are linked to this Group. Double-click on one to view it.
Dr Chris Lens
Mrs I Boz
Dr Tom Glazier
Mr I Pupil
GP
Grader
Ophthalmologist
Ophthalmologist
Save
Cancel
Delete
Add Person

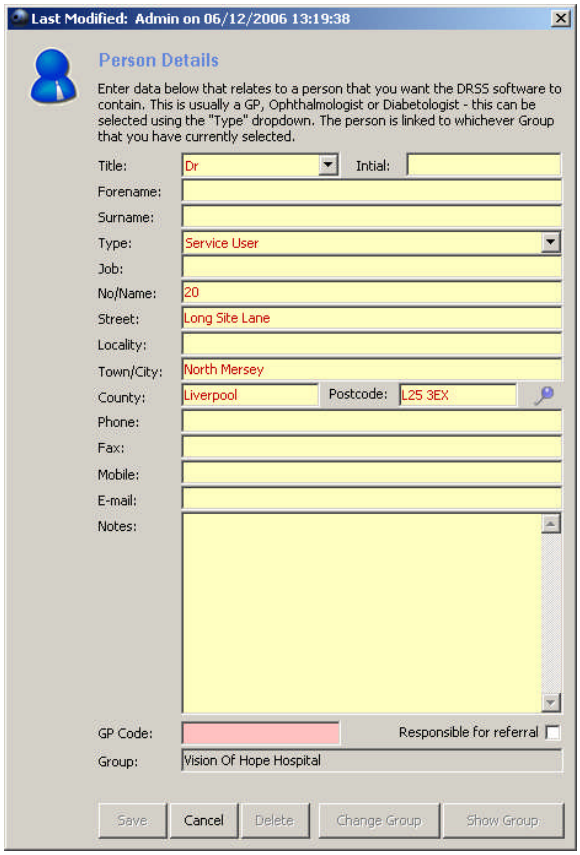
**Figure 11 Group Details Form**

Above is the Group Details form in edit mode accessed by clicking on the contacts button. The cream fields in the top 2/3 of the form are the group details including name, address and contact details, the bottom 1/3 of the form show contacts within the group, these are added by clicking on the Add Person button after saving the details.

| Group Details Field Label | Field Type | Description |
|---|---|---|
| Name: | Free Text | Name of organisation |
| Type: | Drop Down | Type, e.g. Hospital, General Practice |
| No/Name: | Free Text | Number or name of property |
| Street: | Free Text | Address line; Street |
| Locality: | Free Text | Address line; Locality e.g. village |
| Town/City: | Free Text | Address Line; Town or City |
| County: | Free Text | Address Line; County |
| Post Code: | Free Text | Address Line; Post Code |
| Phone: | Free Text | Group telephone number |
| Fax: | Free Text | Group fax number |
| Locality | Drop Down | Used to separate areas e.g. North PCT, South PCT |

| | | |
|---|---|---|
| Ref Arth.: | Drop Down | Referral Authority; e.g. GP to arrange referral |
| E-mail: | Free Text | Group Email Address |
| GP Code: | Unique | Mandatory field to store practice code |
| Notes: | Memo | Free text memo field, use to keep notes about group |
| Venues: | list | Used to list screening venues within this group. Add to this list by selecting from dropdown box below and clicking on the Add button |
| | Drop Down | List of all venues that can be added to the Venues list above. New venues are added to this drop down via the screening venues icon (See the "Screening Venues" section on how to do this). |

The Add and Edit buttons at the bottom of the Group details form enable you to add a new group or edit an existing record, on clicking these buttons the labels will change to Save and Cancel . Delete enables you to delete a record. The blue, right and left buttons are used to step back and forth between existing groups. The Add Person button is used to go on to add contacts that work within this group. Clicking on this button will open the "Person Details" form (see figure 12)




This form works in the same way as the groups form and is used to add personal details of contacts that work within the group. Most fields are self explanatory the 'Type' drop down is used to state what type of contact this is e.g. GP, Photographer, Grader etc. It is important that this field is completed correctly to enable GPs, Diabetologists etc to be linked and found when linking to patients on the patient demographics screen. The GP Code field is mandatory and in the case of GPs is the national GP Registration number. In the case of other contact types, it must be unique and could be a combination of name and number. The "Responsible for referral" tick box should be ticked if this person is the person who is responsible for the referrals at this practice. The Group field is read only and shows the group you are linking this contact against. The Change Group button enables you to change the group e.g. in the case of a transfer. The Show Group button opens the group form.

**Figure 12 Person Details Form**

# ADDING & EDITING PATIENT DETAILS

This section discusses manually adding or editing patient details.

**Note:** With many projects, adding and editing patient details is the responsibility of the GP and is not done by the end user. Check this with your own project manager before changing any patient details.

The initial patient import will probably be done electronically using the CSV Import tool, for guidance on how to use the Import tool see the CSV Importer section of this manual.

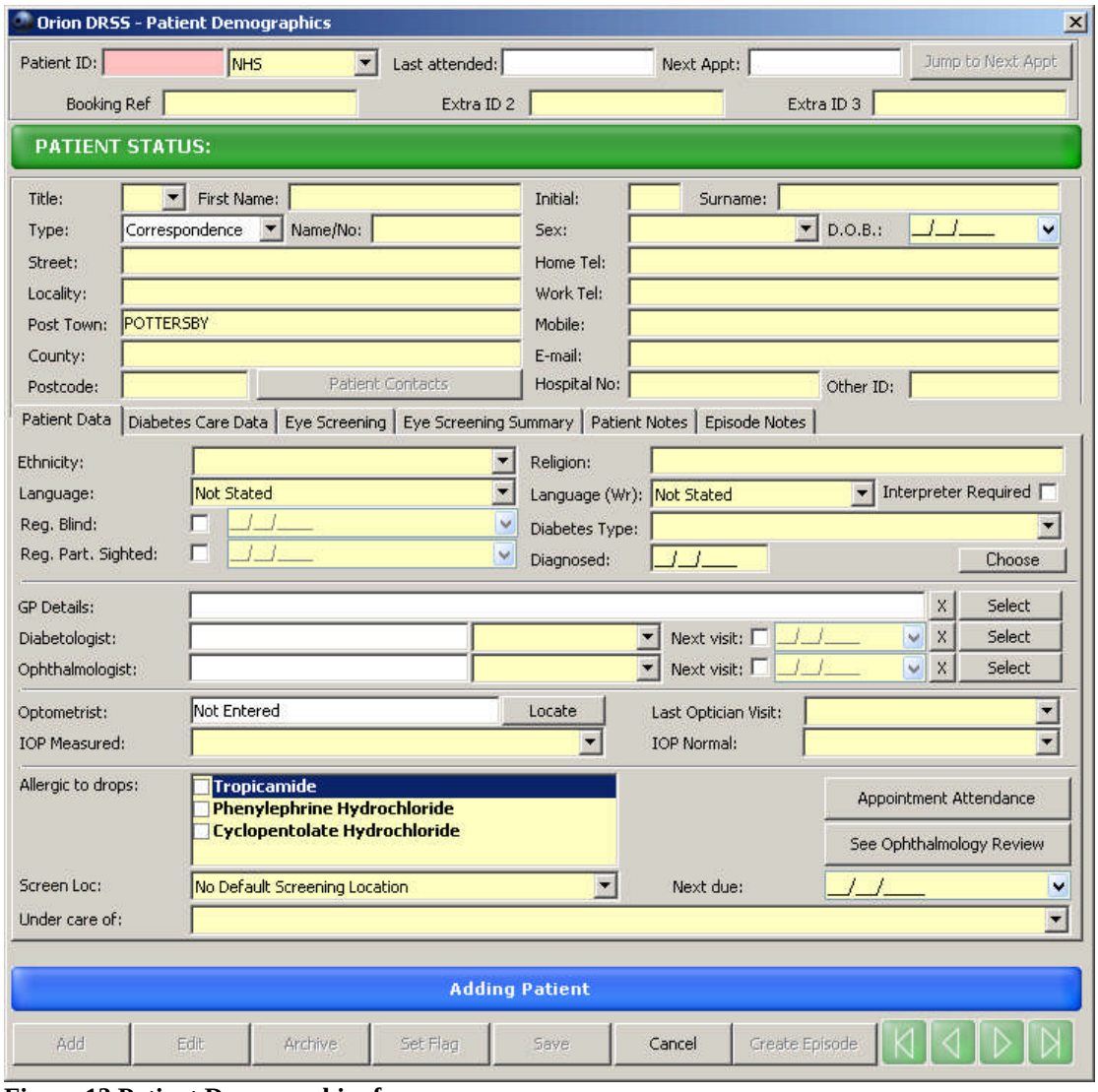
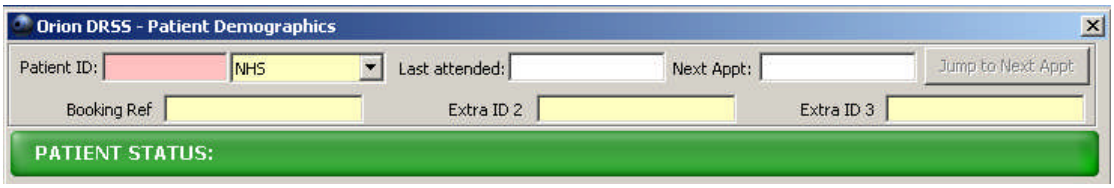



**Figure 13 Patient Demographics form**

The patient demographics form shown in figure 13 can be split into three distinct sections, fields above the green status bar, between the status bar and the patient tabs and below the bottom blue status bar. We will look at each section in turn.



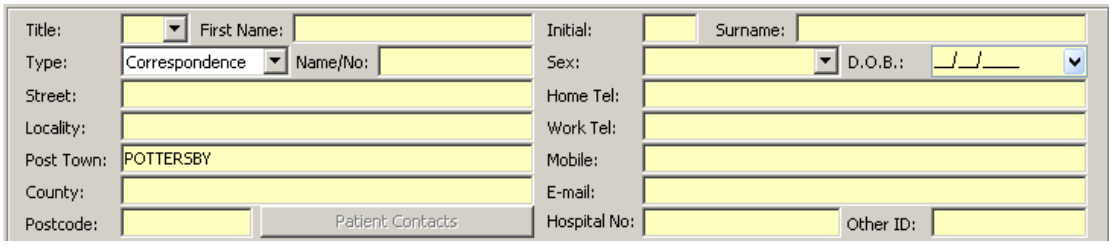

**Patient ID:** This is a mandatory field and would normally be the patients NHS number, however some projects may choose to use their own local authority number. In either case it must be a unique number and the number type should be selected in the dropdown box to the left. If a NHS number is entered, validation prevents non-valid numbers being entered.

**Last attended:** This field is automatically updated with the last appointment date that was attended.

**Next Appt:** Again, this field will be automatically updated with the date of the next made appointment. When this field is populated the Jump to next Appt button will become active, clicking on it will jump to the appointment screen on the date of the appointment.

**Extra ID 1,2,3:** These fields can be utilised to store any additional references numbers your project would like to store. The labels on these fields can be customised to your liking. How to do this is covered in the system administration section of this manual.

**PATIENT STATUS:** This status bar is automatically updated with the current patient status. This includes things like appointment due, archive status etc. The colour of this status bar will also change depending on the status e.g. the status of "Archived Deceased" would change the bar colour to red.




This section holds the main patient demographic information Name, Address, DOB etc. This part of the screen can be viewed and feeds all patient details throughout the application.

**Title:** This field is a dropdown selection field and contains most possible titles e.g. Mr, Mrs, Dr etc, if additional titles need to be added to the list, this can be done via the controlled vocabulary option in system admin. This will be covered in the system administration section of this manual.

**First Name:** This is the patient's first or Christian name.

**Initial:** This field stores up to one character and is intended for a middle initial of the name, it is not a mandatory field and therefore can be left blank if required.

**Surname:** This field is to store the patient's surname.

**Type:** This is a dropdown field containing “Correspondence”, “Home” and “Visiting”. This is to record the type of address stored. Correspondence is the default option and is where any patient letters will be sent, however additional addresses can be stored by changing the drop down to another type and adding the additional information.

**Name/No:** This is the property name or number that you are recording.

**Street:** The street name of the address you are recording.

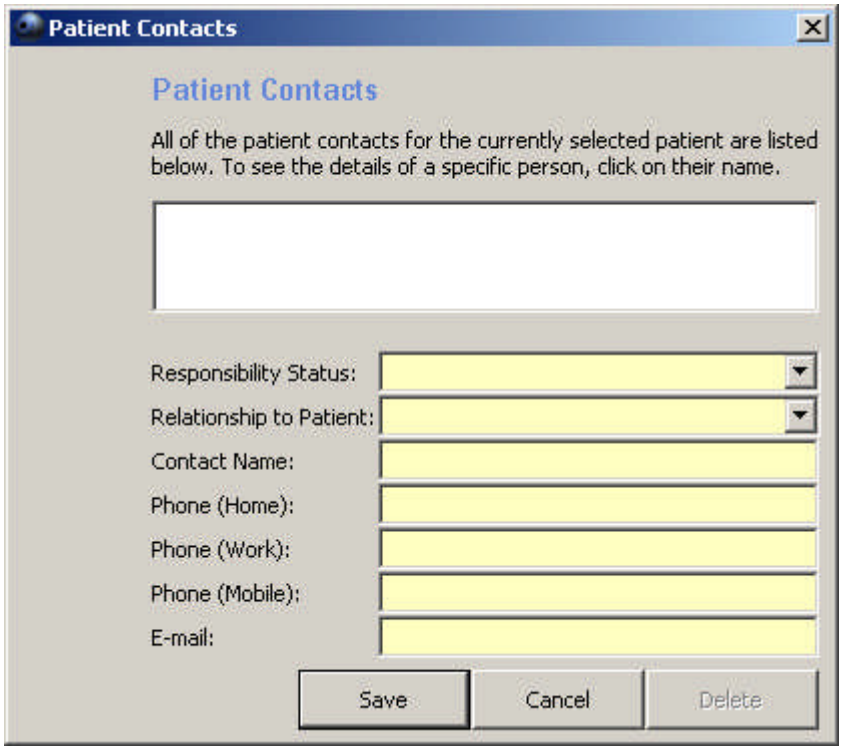
**Locality:** Locality part of the address e.g. village.

**Post Town**: Town part of the address.

**County:** County part of the address

**Post Code:** Post code part of the address.

Patient Contacts This button enables you to add contact information for the patient e.g. partner, parent or carer. This could be useful if you need to contact a partner if a patient is unable to drive after a screening. Clicking this button will open the patient contacts form as seen in figure 14.




This works in the same way as all the forms within the application, to add a new patient contact click the Add button The **Responsibility Status** contains options such as legal guardian or parent carer. Relationship to Patient contains options such as parent, spouse, sibling etc.

The white area at the top of the form will list all the contacts on record, click the name to make it the active record.

**Figure 14 Patient contacts form**

**Sex:** is a drop down field containing Male, Female and Not Specified.

**D.O.B.:** Is a date field used to store the date of birth. The date can be entered using the dd/mm/yyyy format or by using the calendar tool.

**Home Tel:** One of several telephone numbers that can be stored for each patient.

**Work Tel:** The patient's work telephone number.

**Mobile:** The patient's mobile telephone number.

**E-mail:** This field is to store the patients e-mail address.

**Hospital No:** This is where the patient's hospital number would be stored.

**Other ID:** This field can be used to store any other IDs you may wish to store for the patient.

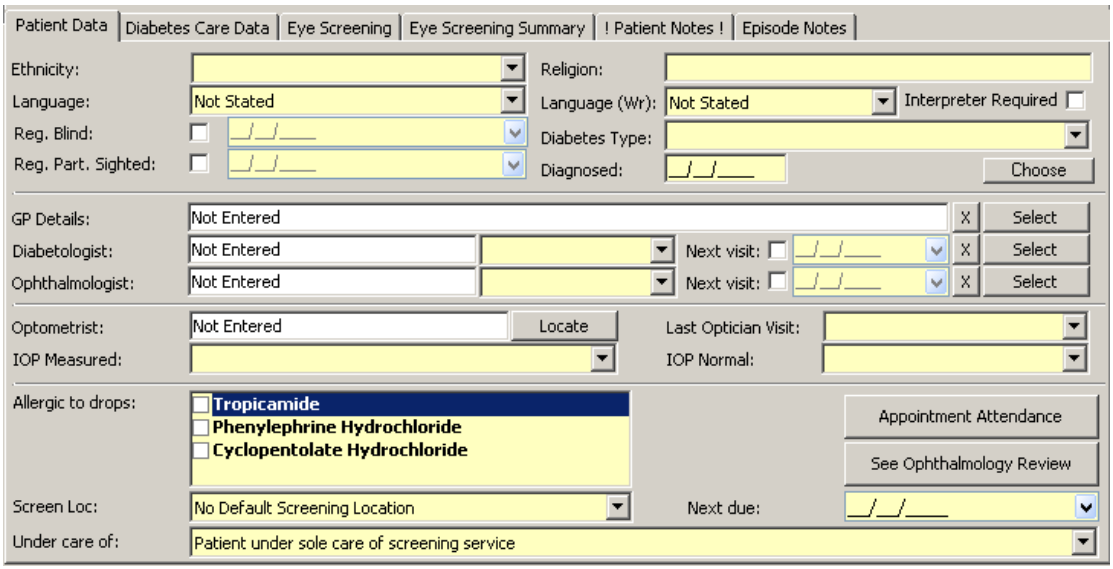



**Figure 15 Patient Data Tab**

The bottom 1/3 of the screen contains several tabs where additional patient information can be stored. The Patient Data tab contains general information such as ethnicity and religion which are becoming required NHS minimum data fields. The fields on this tab will be explained in this section, the other tabs on this form will be discussed later in the manual under the relevant section.

**Ethnicity:** This is a dropdown field containing all the possible ethnic options.

**Religion:** This is a free text field to record the patient's religion.

**Language:** Is a dropdown box to select the spoken language of the patient.

**Language (Wr):** Is also a dropdown box to record the written language of the patient.

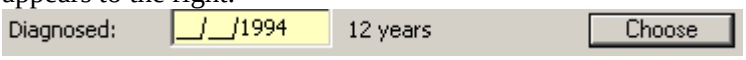
**Interpreter Required:** Is a tick box which can be ticked if an interpreter is required.

**Reg. Blind:** This is a tick box which when ticked indicates that the patient is registered as blind. To the right of this field is a date field to record the date the patient was registered blind.

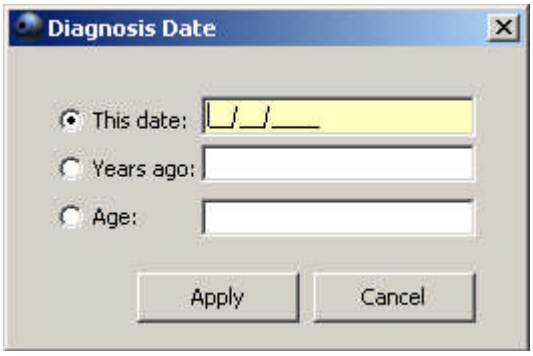
**Reg. Part. Sighted:** This field and the date field to its right, work in the same way as the Reg. Blind field above, but refer to being registered partially sighted.

**Diabetes Type:** Is a dropdown field where you can select the diabetes type of the patient e.g. Type 1, Type 2.

**Diagnosed:** This field relates to the date the patient was diagnosed with diabetes, however this is not a traditional date field and to populate this field click on the Choose button to its right. After populating the diagnosed field, the years since diagnosed date is calculated and appears to the right.



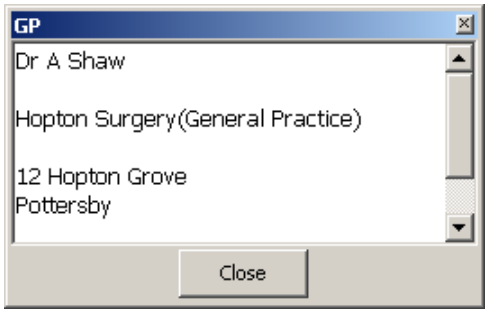

Choose When asking patients when they were diagnosed with diabetes they may give you a date, the age they were at the time or the number of years ago it was. This button will allow you to enter information using any of these options and then will calculate back the diagnosed date and populate the diagnosed field.




To use this dialog box, select the radio button to the left of the date method the patient is giving you for their diagnosed date. This will make the field to the right editable. Type the date, number of years ago or age of the patient at the time then click the Apply button.

**GP Details:** This is where the patient's GP is recorded; however this field is not editable therefore to populate it you need to click on the Select button to the right. This will open the *Browse Contacts* dialog box. Type the doctor's name (without the title) then click on the Search button. A list of all the contacts (where the type field is **GP**) will be listed under the surgery they work. You can either double click or click on the Select Contact button to close the form and populate the GP Details field back on to the patient demographics screen.

**Figure 16 Brows Contacts**

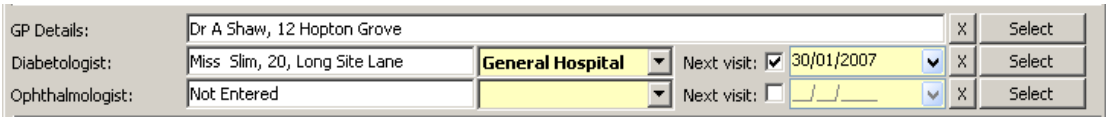



When the patient demographics form is not in edit mode, the Select Contacts button (Discussed above) reads Locate. Clicking on this button will open the GP form (Figure 17) showing details of that patients registered GP.

**Figure 17**

**Diabetologist:**
**Ophthalmologist:**

Both the Diabetologist and the Ophthalmologist fields work in the same way as the GP fields explained above except when searching in the Browse contacts form it will only return the relevant type (Diabetologist or Ophthalmologist) as selected in the type field when creating the contact. Next to this field is an unlabeled dropdown field allowing you to select where the specialist is based e.g. General Hospital, GP clinic etc. **Next Visit:** Is a tick box which enables the date field to its right, here you can record the next due date against the relevant specialist.




Finally the X button allows you to remove the current GP, Diabetologist or Ophthalmologist.

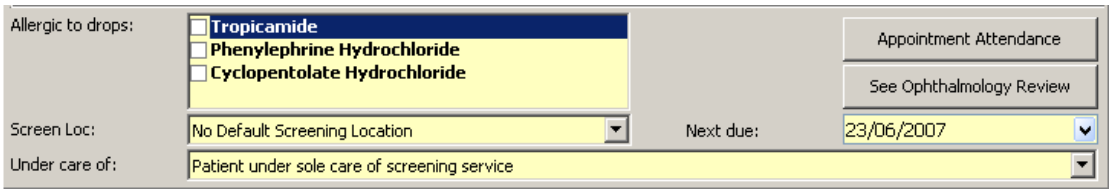
**Optometrist section:** Is the next section below and stores information such as who the optometrist is, the last optician visit and whether the IP was measured and the result.

**Optometrist:** This is where you can select the name of the Optometrist, this works in the same way as the *GP Details* and *Diabetologist* fields. For the Optometrists to be available in this section, they must be first entered via the contacts section.

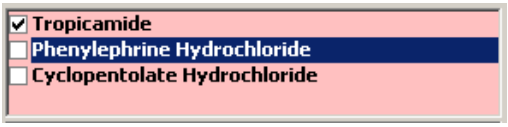
**Last Optician Visit:** Is self explanatory and would be the date of the last visit to an Optician.

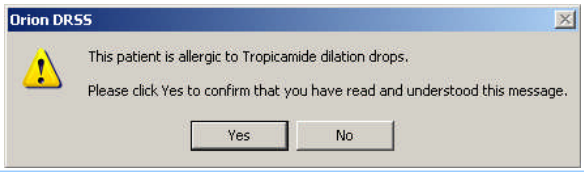
**IOP Measured:** Is a dropdown selection listing: *Yes*, *No* or *Don't Know* options where you would enter if the IOP (Intraocular Eye Pressure) was measured at the last opticians visit.

**IOP Normal:** again this is a dropdown selection box where, if the *IOP Measured* field is YES, you would enter the result from options of *Yes*, *No*, *Don't Know*, *Rechecked* or *Referred*.




**Allergic to drops:** This area contains a list of drops available to dilate the patient's pupils; next to each is a tick box where you can record if the patient has an allergy against any particular type of drop. If a tick is entered next to any of the drug types then the background colour will turn red to alert the user. In addition to the background colour turning red, a message box will prompt the user that the Patient has an allergy when opening the eye screening form during an episode.

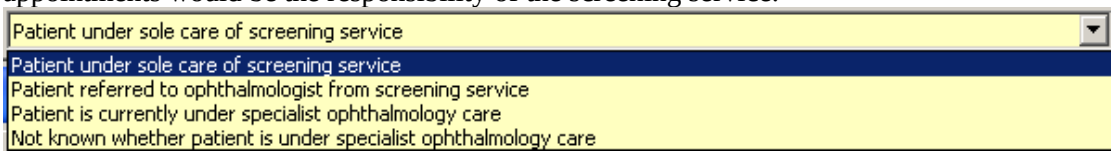




Orion DRSS
This patient is allergic to Tropicamide dilation drops.
Please click Yes to confirm that you have read and understood this message.
Yes
No

**Screen Loc:** is a dropdown selection box where you can select the normal screening location. The options include *No Default Screening Location* or any of the locations set up as screening venues (See setting up clinics).

**Next Due:** is a date field used to enter the date the patient is next due for screening, this field is also automatically populated after grading. Depending on the result of the grading the patient will be put into a workflow process to calculate the next due appointment date.

**Under Care Of:** This field is used to enter the name of the department who the patient is under the care of, for example, if a patient is under the care of screening service then the admin department may use this to filter out making those patients appointments because their appointments would be the responsibility of the screening service.


Patient under sole care of screening service
Patient under sole care of screening service
Patient referred to ophthalmologist from screening service
Patient is currently under specialist ophthalmology care
Not known whether patient is under specialist ophthalmology care

The above diagram shows the options available in the *Under Care Of* dropdown box.

**Appointment Attendance:** On clicking this button an Appointment Attendance form will open (figure 18) and list all the appointment history for this patient. The information includes the date and time of the appointment, the venue and attendance status e.g. DNA or attended etc. This information is pulled from the information entered in the attendance field on the eye screening tab during a screening episode.

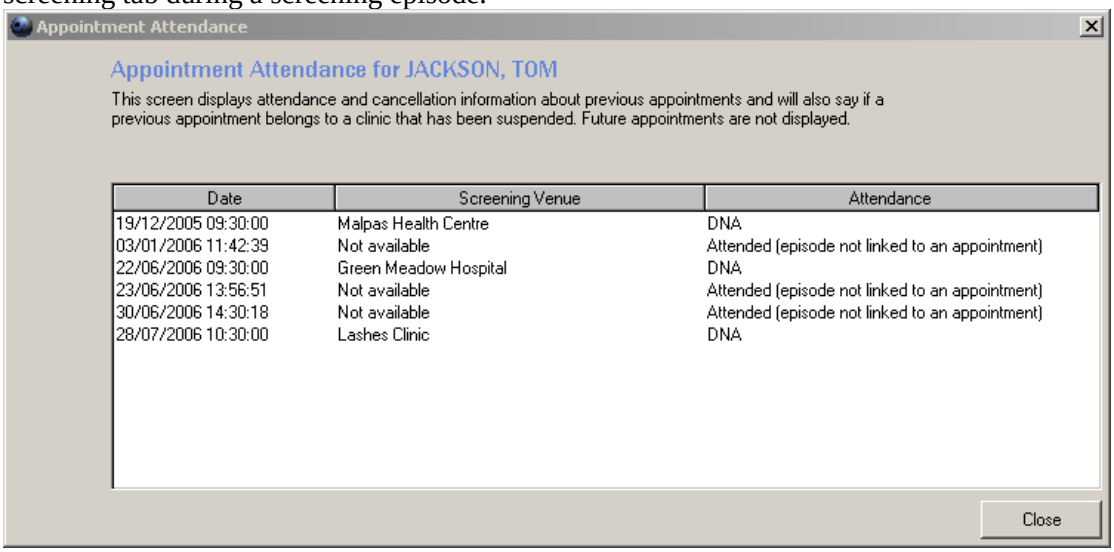
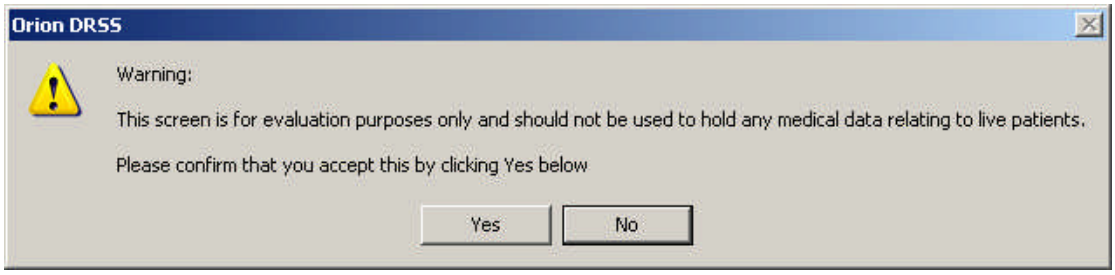
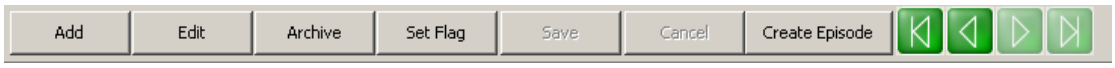



**Figure 18**

**See Ophthalmology Review:** At the time of print this screen had not been signed off, therefore clicking on this would show the following message box. Documentation on the Ophthalmology screen will be produced after sign off of this screen.


Orion DRSS
Warning:
This screen is for evaluation purposes only and should not be used to hold any medical data relating to live patients.
Please confirm that you accept this by clicking Yes below
Yes
No

Along the bottom of the patient demographic screen is a toolbar with the following buttons.




Add is used to add a new record. Clicking on this will change the field background colour to cream and make it editable.

Edit is used to edit an existing record. Again the field colour will change to cream making records editable.

Archive is used to archive patients (remove them from database). Over time you will need to remove patients from the database through either death or moving out of the area; rather than deleting them you would archive them. This would have the affect of removing the patient details but without losing any episode statistics. When searching for patients you can choose to include archive patients thus bringing them back into play.

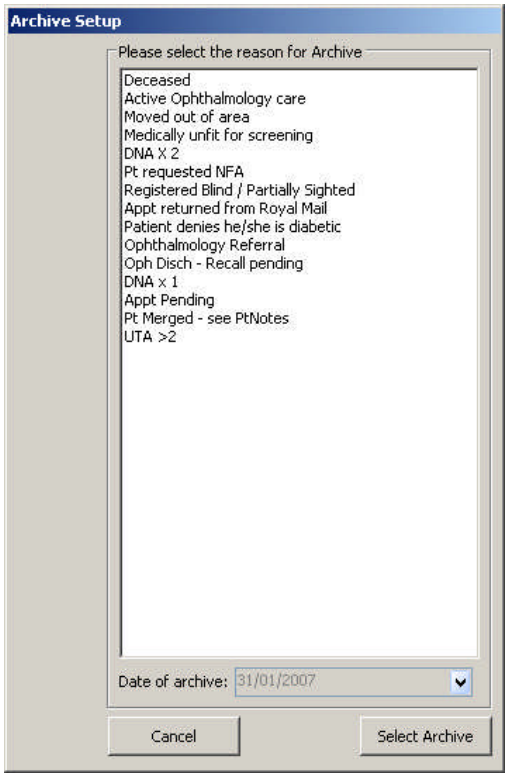
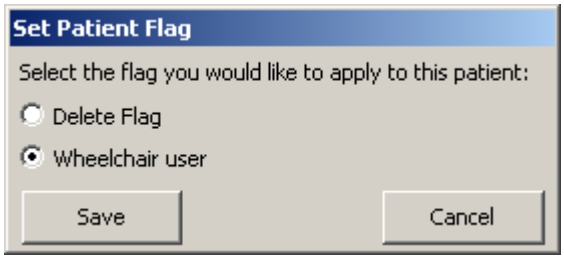



**Figure 19**

Figure 19 shows the Archive dialog box. On clicking the Archive button this screen would open, you would then select the reason you have chosen to archive the patient, together with a date, and then click the Select Archive button.

If a patient was archived e.g. for the reason of moving out of area, and then moves back, you can un-archive them without losing any historical data.

Set Flag this button is used to flag patients e.g. patients who need wheelchair access. The reasons can be customised by individual Trusts. To set a flag, click the Set Flag button and then click the correct radio button and then finally click on the Save button. When searching for patients you can filter by flag.




Save button will be active when in edit mode and clicking it will save any changes made.

Cancel will exit from edit mode without saving any changes.

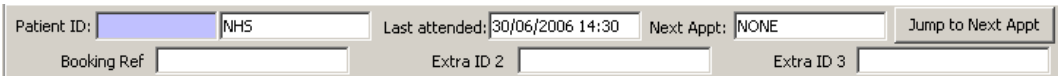
Create Episode is clicked to create a new episode, This would be a walk in appointment (discussed in more detail in the Patient Appointments section).

# ACCESSING PATIENT DETAILS

Within this section we are going to look at several methods of accessing and finding patient details within the DRSS database.

## Finding a Patient Using the NHS Number:

The first method we are going to look at is using the NHS number or Local Authority Number (Depending on the number your Trust is using). If you have the NHS or Local Authority number (Patient unique number) at hand then the quickest way to access the demographics screen is to click the *Patient* icon.




Double click the *Patient ID:* field, this will remove any number currently in the field and the background field will change to blue. Enter your patients' unique ID number (This would be ether a NHS or Local Authority number) and press return. The screen will go directly to your required patient.

## Using the Patient Search Screen

The next method we are going to look at is the Patient Search screen. Very often you do not have all the information about a patient you would like. The patient search screen enables you to enter whatever criteria you have. Click the *Find PATIENT* icon and the Patient Search screen will open.

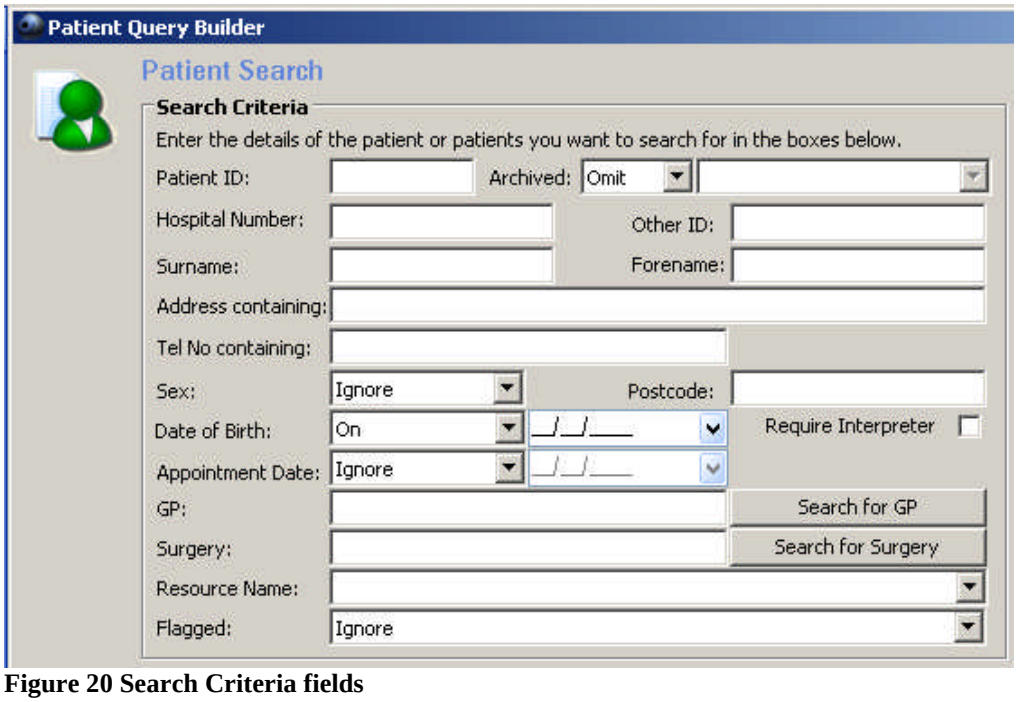



**Figure 20 Search Criteria fields**

Figure 20 shows all the fields available when entering the criteria of patients you are looking for. Ideal criteria to enter would be the patient's first name, surname, DOB and post code however you can enter any combination of criteria shown in figure 20. As a general rule "Less is More" e.g. if you were just to enter Smith in the Surname field then your patient would be among 100's of other Smiths'. The more information you enter the fewer results you will get, however the more likely it is that you could make a mistake and miss the result you are looking for.

**Patient ID:** This field is for the NHS number or Local Authority number (depending on what your trust uses).

**Archived:** By default this field is populated with *"Omit"* therefore your search will only include current (Not Archived) patients. This is a dropdown selection field with other options of *"Include"* or *"Only"*. *Include* will incorporate archived as well as current patients where as *Only* will only return archived patients. This field can be used in conjunction with the field to its left (Explained in the next paragraph)

**Archive Reason:** This field is unlabeled but sits to the right of the *Archived* field. It is a dropdown selection field that contains all the reasons a patient can be archived and is used in conjunction with the Archived field. You can, for example, filter your results to only return patients that have been archived because they have "Moved out of the area" or who are "deceased".

**Hospital Number:** used to find patients by their hospital number.

**Other ID:** used to find patients by the value stored in the *Other ID* field on the patient demographics screen.

**Surname:** This field is used to field patients by surname. This as with all fields will use a "Starts with" criteria. E.g. if you are not sure of a spelling you can enter the first few letters and the results will show all the surnames that start with the letters you entered.

**Forename:** can be used to enter the full forename or just an initial when used in conjunction with surname.

**Address Containing:** This field is used to search on any part of the address field e.g. street, town or county. You can enter any part of the address and browse, the results returned will be all patients with your criteria in their address.

**Tel No Containing:** used to enter the patient's telephone number. As with the *Address containing* field *Tel No Containing* will search all the patients contact numbers *Home , Work* or *Mobile*.

**Sex:** this field defaults to *ignore* therefore your search will ignore the sex of your patient however you can change the dropdown selection box to *Male, Female* or *Not Specified* in order to refine your search.

**Post Code:** used to enter the patients post code.

**Date of Birth:** is used in conjunction with the date field to its right. The DOB field defaults at *on* therefore your search will return any patients born on the date entered to the right. However you can change the value to either *Before* or *After*. By doing this you can find patients older or younger than a set date, depending on the date you enter on the right.

**Appointment Date:** This field and the date field to its right work in the same way as the *Date of Birth* fields (described above) its default value is *ignore* therefore a normal search will ignore any appointment dates however you can change the value to either *on*, *before*, *after* or *between.* The between option makes a second date field visible and your results will return any patients with an appointment between the date entered in the first date field and the second.

**GP:** used to find patients registered with a particular GP, however you do not type directly into this field, instead you click the Search for GP button to its left.

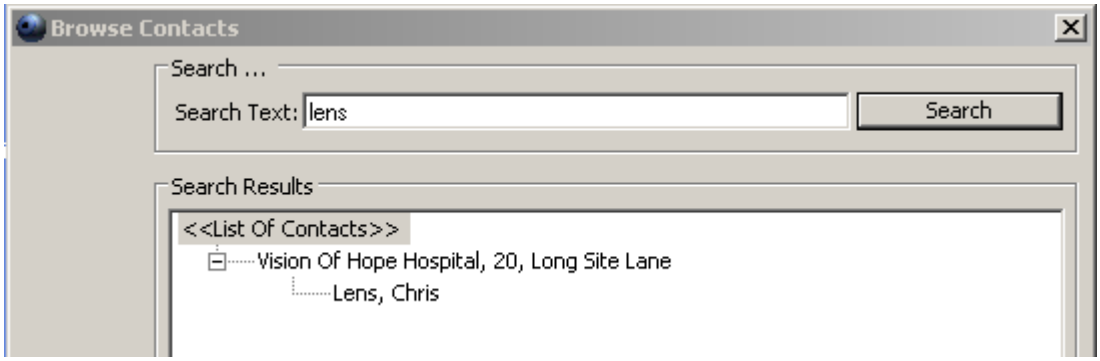



**Figure 21 Browse Contacts**

This will open the browse contacts screen (figure 21) you can then type the name of the GP and click the Search button. All the GP's in your contacts list with that name will be listed. Double click or click the Select Contact button to pull through the contact information into the *GP* field.

**Surgery:** is used in the same way as the GP field, by clicking on the Search for Surgery button, again this will open the browse Contacts screen (figure 21) however this time will only return surgeries previously entered via groups under the *contacts* icon.

**Resource Name:** is used to find patients who have been screened at a particular resource (Clinic). The dropdown list includes all the resources set up via the *Screening Venues* icon.

**Flagged:** is used to find patients that have been flagged e.g. someone who needs wheelchair access. By default the value is *ignore* and therefore will ignore any flags unless selected.

After entering a selection on criteria fields (a typical search would be *Surname*, *DOB* & *Postcode*). Click the Browse button. All patients fulfilling those criteria will be listed below. To then open the patients demographics screen double click the desired patient from the list. Clicking on the New Query button will delete any previous search results and clear the criteria field, ready for a new search. The Close Query button will close the Patient query builder screen.

The other Report buttons will be discussed in the reports section of this manual.

# SETTING UP CLINICS

Before patient screening appointments can be made, the clinics need to be set up. This involves two processes the first being, entering all the screening venues into the application. This is a one off process that would normally be done before the DRSS screening program goes live and should only need updating if a new venue opens or an existing venue is changed. The second process is to set up the scheduled screening days. This is an ongoing process that needs to be done several weeks in advance of the appointments. The lead time (length of time an appointment can be booked in advance) of appointments will vary from trust to trust but would normally be around three months.

## Screening Venues

Setting up or editing screening venues is done be clicking on the *Screening Venues* icon from within the Patient and Contacts group. This would open the Screening Venues screen (figure 22)

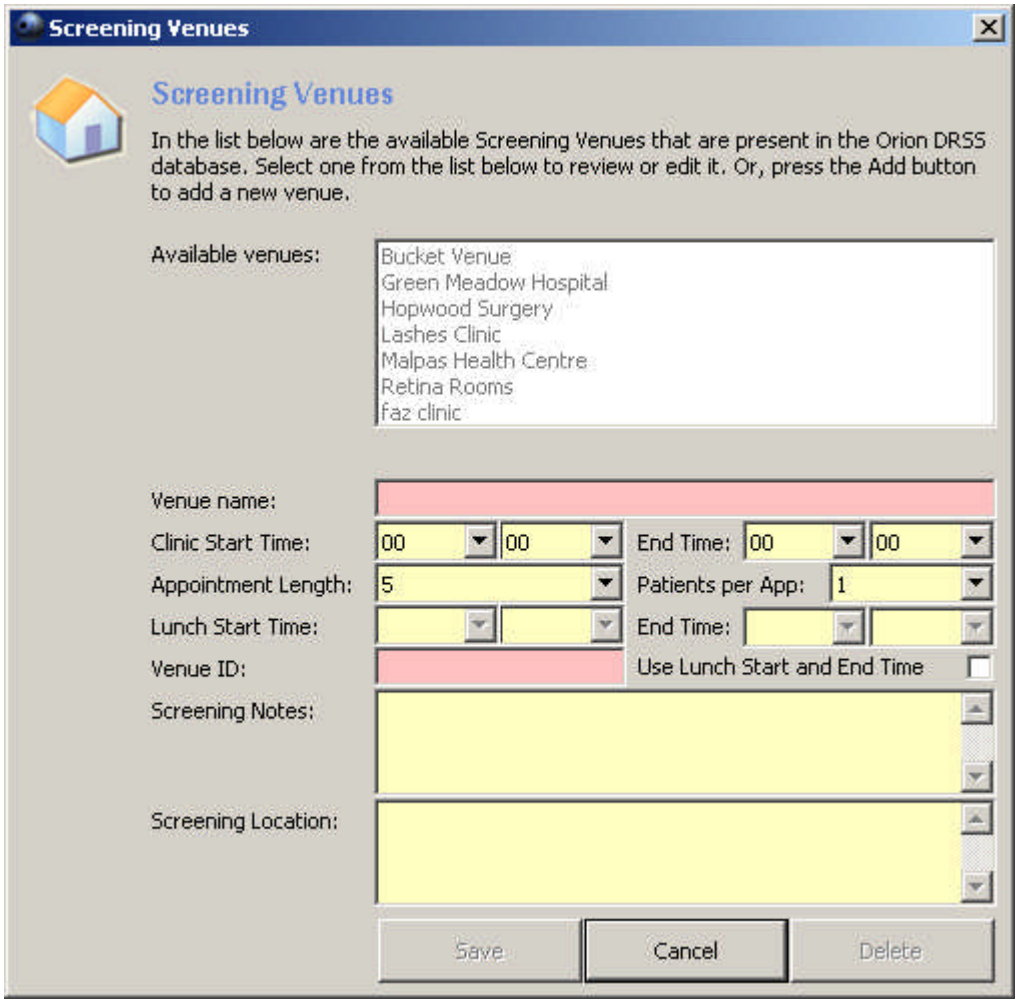



**Figure 22 Screening Venues Screen**

This screen is where you enter the details of each screening venue in your program. When you first open the screen the field colours are white, click the Add button to make the form editable as seen in figure 22. The cream filled fields are editable and the pink filled fields are mandatory.

**Available Venues:** This is a list box, listing all the venues that have all ready been setup. To edit any of the currently setup venues double click on the venue in the list; this will bring its details into the form below and are ready for editing.

**Venue Name:** This is the first mandatory field and is used to enter the name of the venue.

**Clinic Start Time: / End Time:**

This is where you setup the default opening times of each clinic. Each field is a dropdown selection box where you would first set the hours and then the minutes.

**Appointment Length:** is a dropdown selection box for you to set the default appointment length in minutes. This is a default length but can be changed at the time of making the appointment if necessary.

**Patients per App:** defaults to 1 but should be set to the number of Optometrists/ Cameras you have resources for. If you book patients in, say blocks of 3 but only have one camera then this should still be set to 1.

**Lunch Start Time: / End Time: / Use Lunch Start and End Time:**

Lunch start and end times are used to set up the default lunch breaks (Non appointment times) they work in the same way as the *Clinic Start* and *End Time* fields but only become active after ticking the *Use Lunch Start and End Time* tick box.

**Venue ID:** is the second mandatory field. It accepts alphanumeric data but must be unique for each clinic.

**Screening Notes:** is a free text field used to enter any notes you would like to keep about the venue.

**Screening Location:** Is also a free text field about the location however this field can be mail merged onto appointment letters therefore could be used to add directional information for patients.

After populating the above fields click the Save button to save your work. The Delete button will remove a clinic from the application.

# Scheduled Screening Days

To setup scheduled screening days, click on the Appointments icon found in the Patients and Contacts group. You must schedule screening days (make appointments available) before you can book patients an appointment.

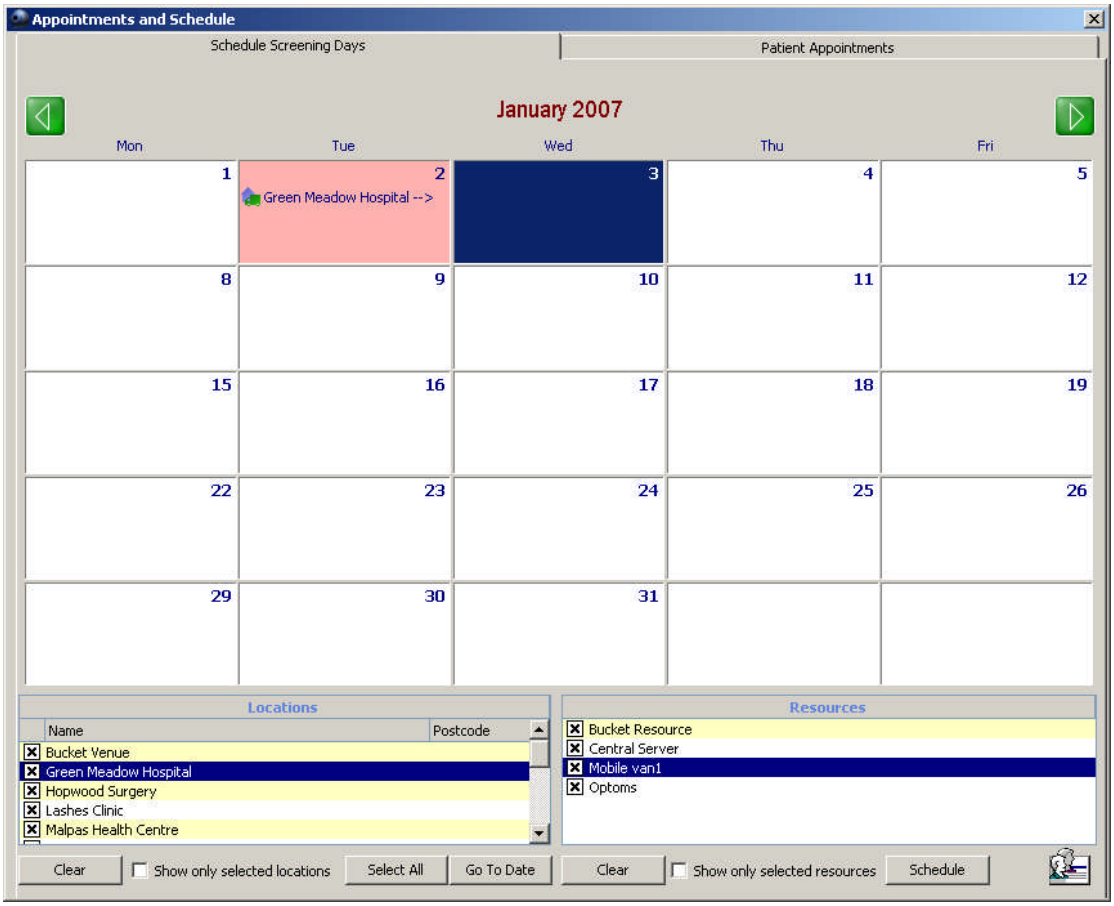
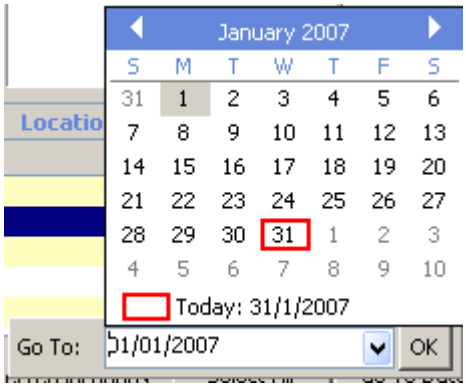



**Figure 23 Calendar showing scheduled screening days**

After clicking the *Appointments* icon the scheduled screening day's calendar (figure 23) screen will open showing the current month.

You can navigate the calendar by clicking the right and left green arrows at the top of the screen.




You can also navigate the calendar by clicking on the Go To Date button at the bottom of the screen. From here you can either manually enter the date or click the blue v arrow to open the calendar and select the date you require. Click OK and the screen will go to the date you require.

## Types of Clinic

Before we look at setting clinics up, it is important to understand the two different types of clinics that we can create in DRSS.

**Fixed schedule:** is the default clinic type and is used to refer to actual screening clinics where patients are going to book fixed time appointments.

**Open schedule:** clinics refer to an area where a list of patients who are due an appointment can be stored. These lists are then used to send out invitation letters (open appointment). As patients subsequently book themselves fixed appointments, they are removed from the open appointment list and into a fixed appointment (this will be covered in more detail in the appointments section).

## Setting the scheduled day/days

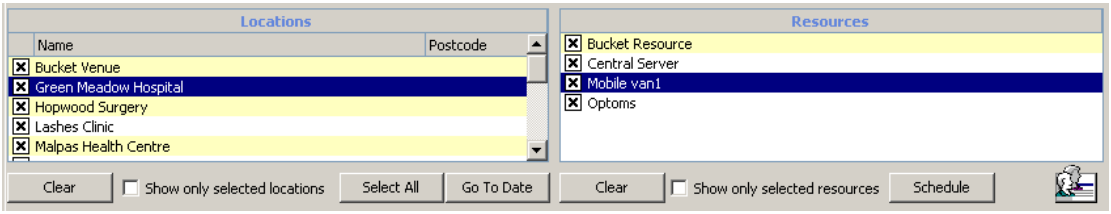
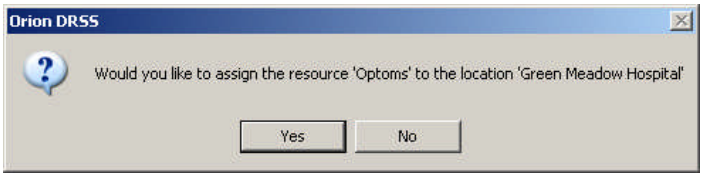



**Figure 24 Locations and Resources list**

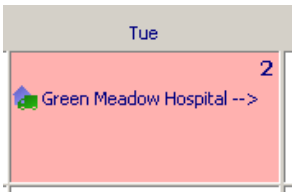
To setup a screening day you need two items in place, the location (This is a list of screening venues, setup in previous chapter) and a resource (this is the camera or technically the laptop or PC connected to the camera). The Locations and Resources are listed at the bottom of the *Scheduled screening days* screen (figure 24).

All the Locations and Resources in your trusts project will be listed at the bottom of the form however when setting up clinics you would only be interested in your own clinics, therefore you can filter the list to only show your own clinics by putting a x next to your own clinics and resources, then putting a tick in the *Show only selected locations/resources* box, this will filter the list to only show what you are interested in thus preventing you from making mistakes. The Clear button removes all the x's so that you can make a new selection.

To setup a screening day or days you first select the day or days you would like to setup. You then drag (left click and hold your location then drag to the required day and release the mouse). You would do this with both a location and a resource.




You will get a message box reading "Would you like to assign the resource (selected resource) to the location (selected location)".




Click Yes and your selected day should then look like the day on the left. Your scheduled screening day is now set using the default setting of the clinic (as created when setting up the clinic).

## Clinic Detail

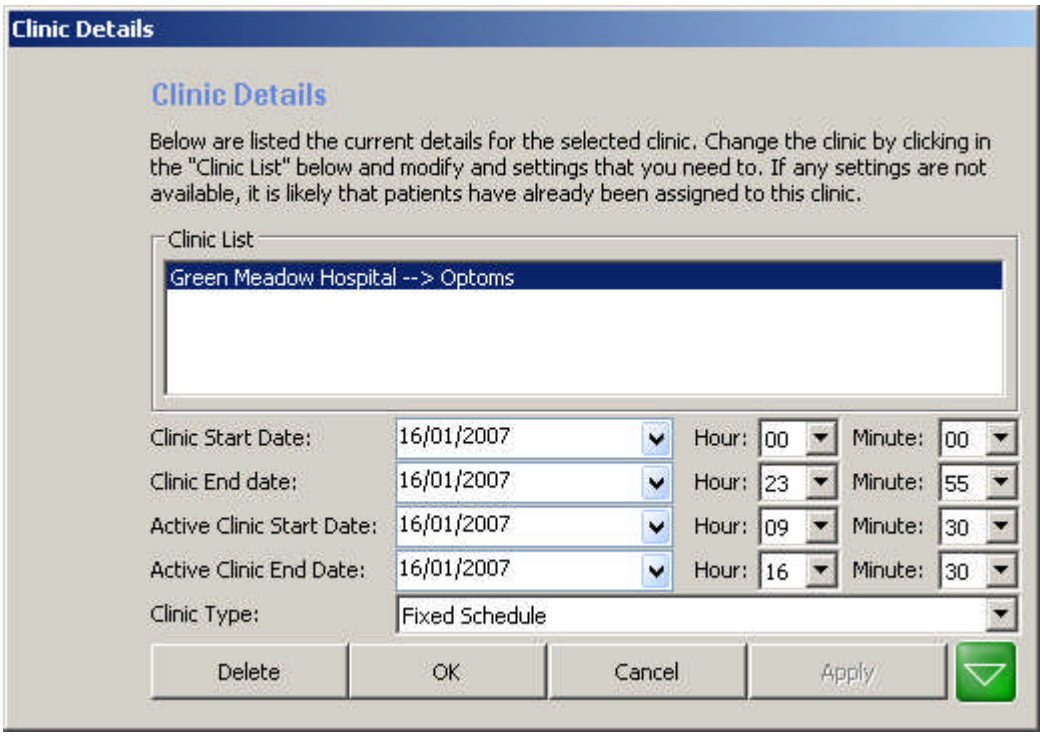

Clinic Details
Clinic Details
Below are listed the current details for the selected clinic. Change the clinic by clicking in the "Clinic List" below and modify and settings that you need to. If any settings are not available, it is likely that patients have already been assigned to this clinic.
Clinic List
Green Meadow Hospital --> Optoms
Clinic Start Date: 16/01/2007 Hour: 00 Minute: 00
Clinic End date: 16/01/2007 Hour: 23 Minute: 55
Active Clinic Start Date: 16/01/2007 Hour: 09 Minute: 30
Active Clinic End Date: 16/01/2007 Hour: 16 Minute: 30
Clinic Type: Fixed Schedule
Delete
OK
Cancel
Apply

**Figure 25 Clinic Details**

If you are happy with your default setting, then you need not go any further than the previous step, however you may need to change the defaults. To do this double click the clinic you have just set up, this will open the clinic details screen (figure 24). From here you can set the clinic Start and End Date and Time (This is the time the clinic is open or available from). You can also set the Active Clinic Start Date (this is the time between the first and last appointments).

**Clinic Type:** the default is the *Fixed Schedule* (actual appointments) the other option is Open Schedule (invite list).

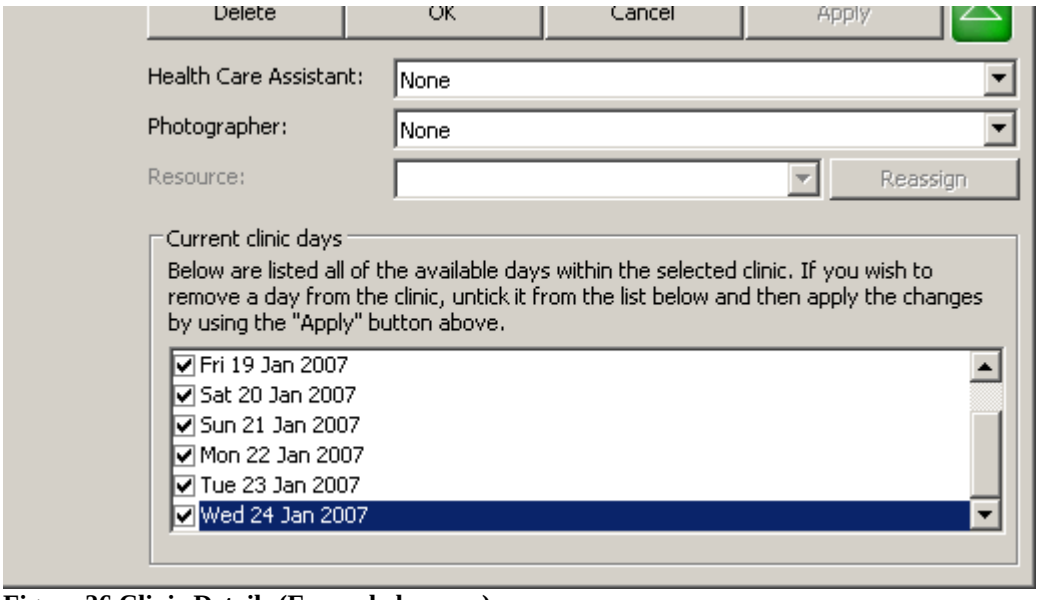

Delete
OK
Cancel
Apply
Health Care Assistant: None
Photographer: None
Resource:
Reassign
Current clinic days
Below are listed all of the available days within the selected clinic. If you wish to remove a day from the clinic, untick it from the list below and then apply the changes by using the "Apply" button above.
Fri 19 Jan 2007
Sat 20 Jan 2007
Sun 21 Jan 2007
Mon 22 Jan 2007
Tue 23 Jan 2007
Wed 24 Jan 2007

**Figure 26 Clinic Details (Expanded screen)**

By clicking on the green dropdown button (seen to the left) the Clinic Details screen will expand revealing additional information (See Figure 26). From here you can enter:

**Health Care Assistant:** this could be a receptionist or nurse on duty in the clinic, however for the names to be available in the dropdown; they should have been previously set up as a contact with relevant job title and type.

**Photographer**: again the photographer on duty in the clinic can be selected providing they have previously been set up in the contacts section.

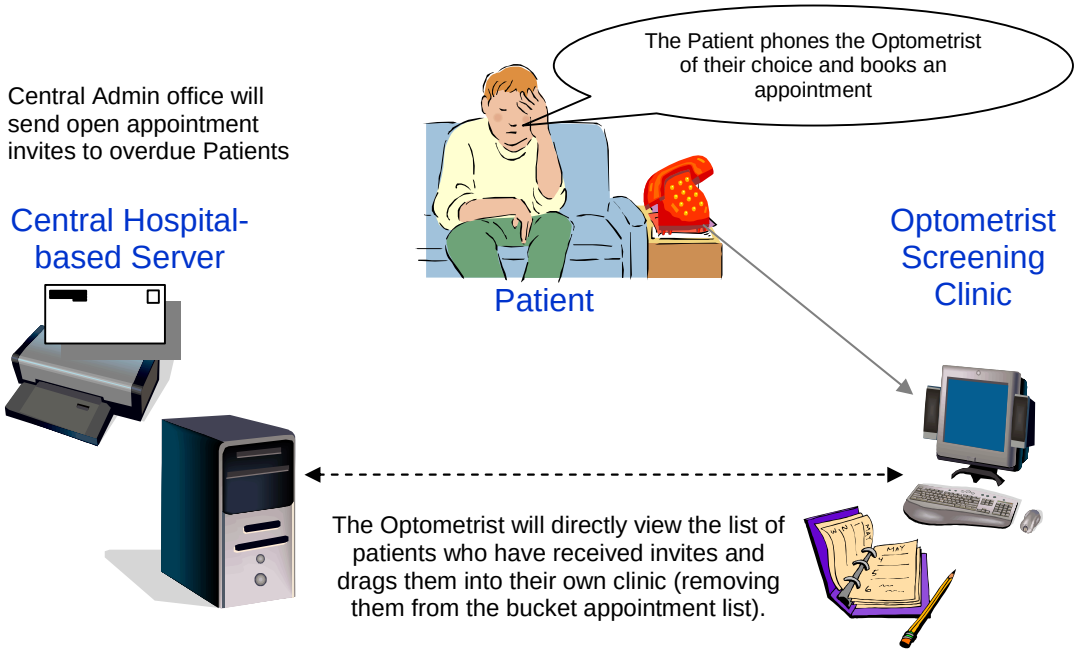
**Resource**: field is dimmed out because the resource was assigned when the clinic was set up.

**Current Clinic Days**: If a few (or full Month) of clinic days have been set up at the same time, then each day will be listed in this section with a tick next to it. If you would like to cancel any of the scheduled days then you can un-tick the required day. This would be useful/quicker if for example you screen every day except Tuesdays. (Set up the full month in one step and then deselect each Tuesday).

# PATIENT APPOINTMENTS

Once the clinics have been set up within the system you can start to book patients in for appointments. Depending on how your project is to be run, appointments will be either *open appointment* (a letter inviting the patient to book a slot of their choice) or a *fixed appointment* (a letter stating a fixed time and venue of their appointment). We will discuss each of these processes separately starting with open appointments.

## Open Appointments Process:


Central Admin office will send open appointment invites to overdue Patients
Central Hospital-based Server
The Patient phones the Optometrist of their choice and books an appointment
Patient
Optometrist Screening Clinic
The Optometrist will directly view the list of patients who have received invites and drags them into their own clinic (removing them from the bucket appointment list).

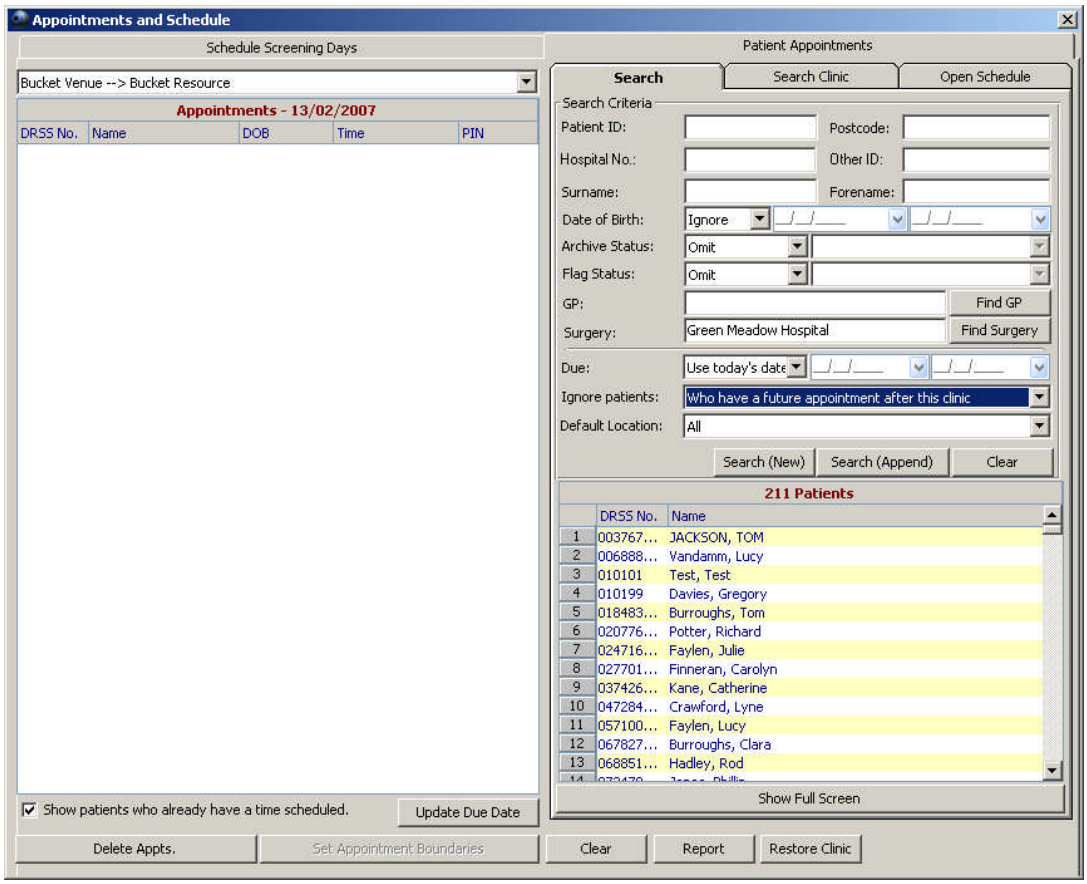
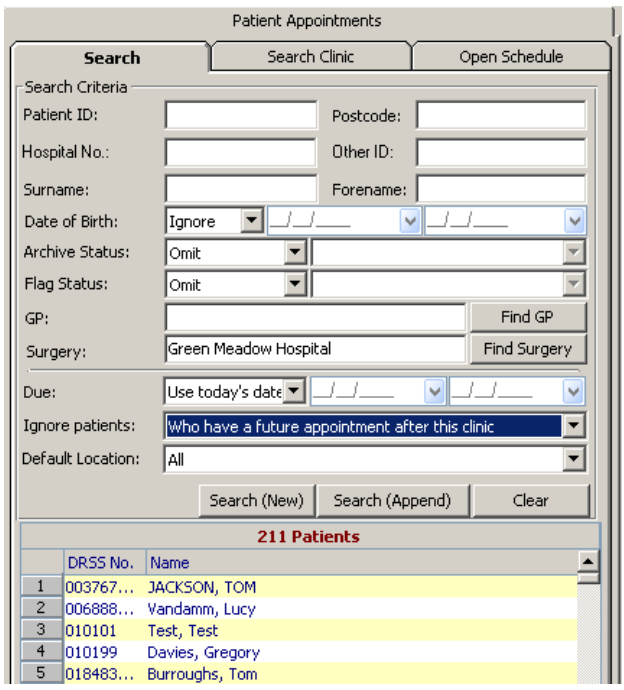



**Figure 27 Patient Appointments Tab**

After setting up an open appointment clinic (See clinic details above) click on the Patient Appointments tab (Figure 27). This screen is split into two halves the left hand side is where the list of patients that have been invited to attend a clinic, will be stored. The right hand side is split into three tabs.




**Search:** is the tab where you would enter the criteria of the patients you would like to invite to a screening clinic. In the example to the left we have entered criteria of:

| Field | Criteria |
|---|---|
| Surgery | Green Meadow Hospital |
| Due | Use today's Date |
| Ignore patients | Who have future appointments after this clinic |

This will return all the patients that are registered at Green Meadow Hospital that are due an appointment as at today's date and who do not have a future appointment already booked after this clinic date.

After setting the criteria of the patients you would like to invite to a clinic, click on the Search (New) button a list will appear below (in this example 211 patients). If you would like to add additional patients to the list you can enter additional criteria and click the Search (Append) button, this will add the additional patients to the end of the list. You can now select and drag the desired patient list to the left hand side of the screen. To select all the patients in the list, click the first name in the list, press and hold the shift key then scroll to the last name in the list and click. All the names will be selected, whilst still holding the shift key, drag the names to the left hand side of the screen.

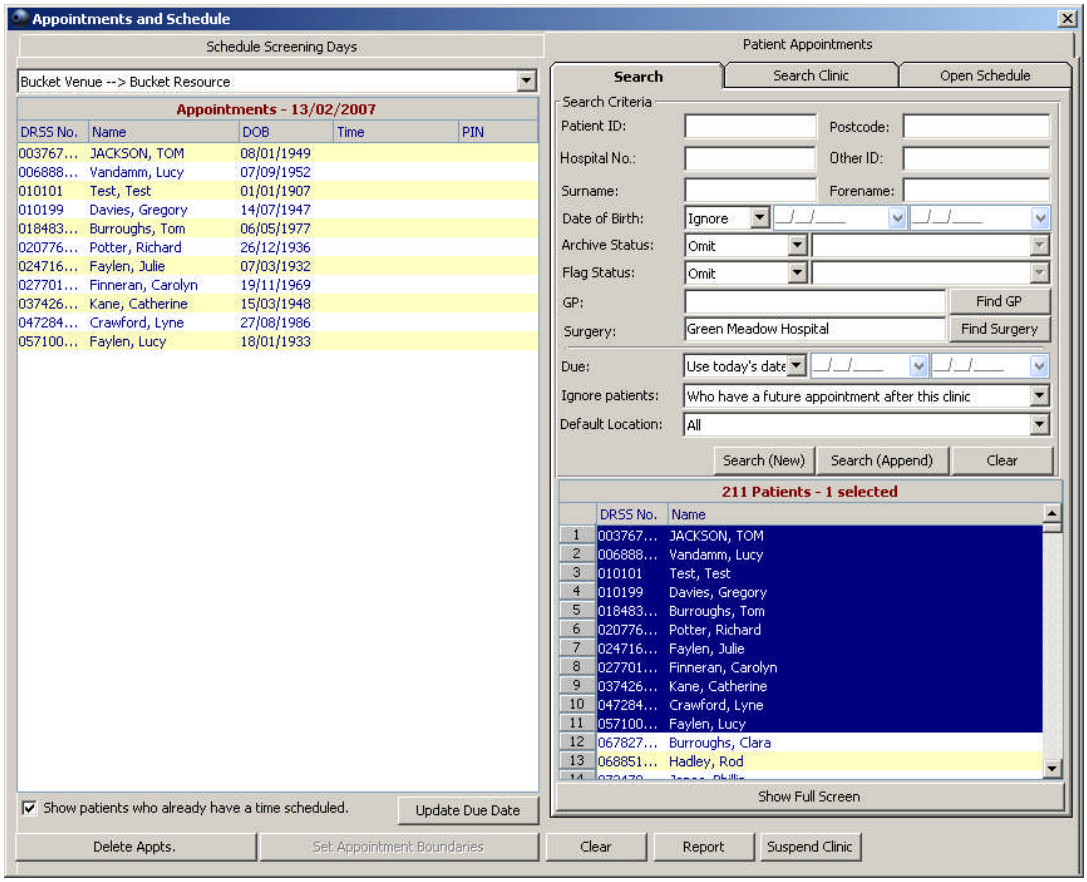



**Figure 28 Invite list**

Figure 28 shows a selection of patients that have been dragged into the invite appointments list on the left hand side of the screen. These patients can now have a letter sent to them using the Report button (See the letters and documents section of this manual). As these patients consequently book fixed appointments (See fixed appointment booking) they will be dragged from this invite list to a fixed appointment, therefore this list will get shorter as patients book themselves appointments. The call and recall centre whose role it is to send out invite letters, will return to this list a few weeks later and generate a reminder letter to any patients remaining in the list. A third and final letter can be generated a few weeks after that to any patients who have still failed to book an appointment. By clicking on the Update Due Date button twelve months can by added to the remaining patients due date, thus preventing them from appearing in the due list at next Months call.

# Fixed Appointment Booking

Booking fixed appointments is a similar process to that of open appointments; however you are now dragging the patient to a set time slot in a set location. This is done by selecting *Fixed Schedule* in the Clinic Details "Clinic Type" field (The default) when setting up the clinic. The clinic will then look like that in figure 29.

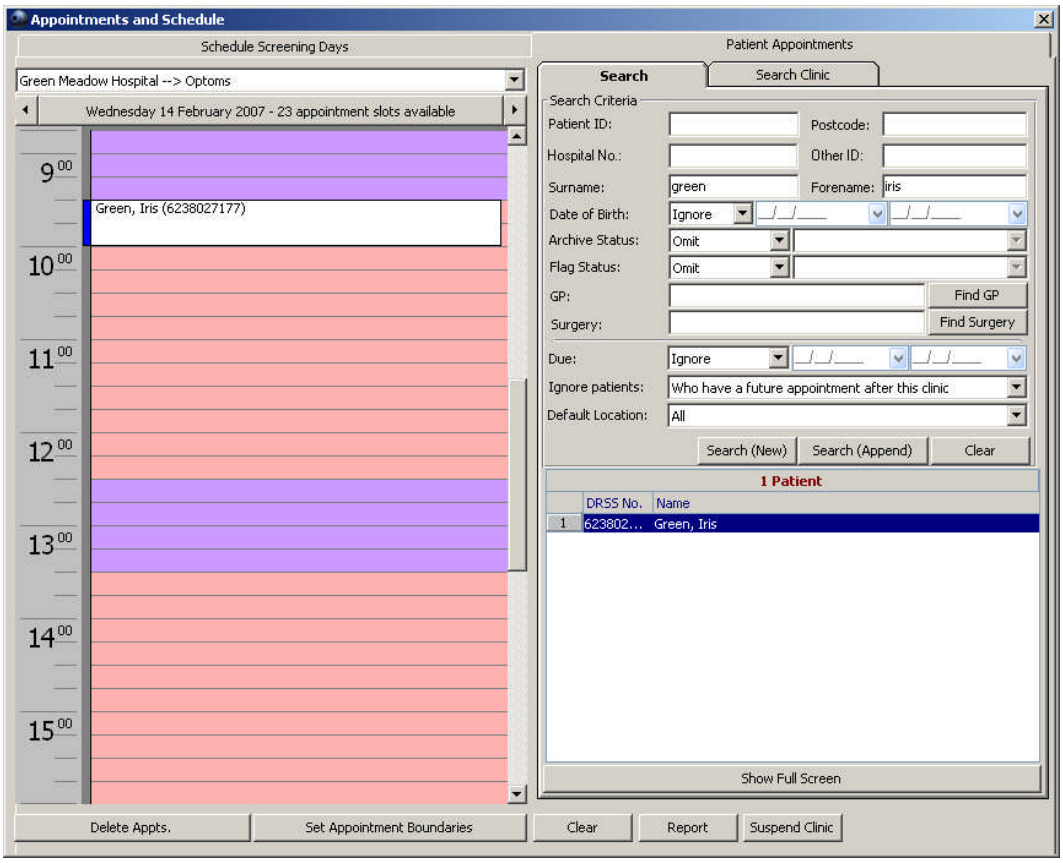
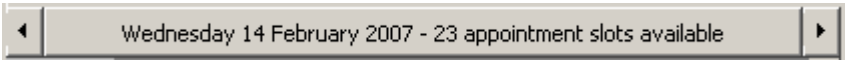


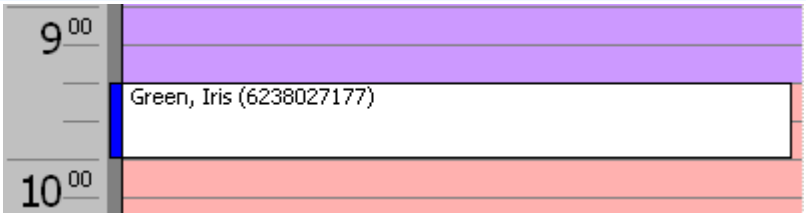

**Figure 29 Fixed Appointment Window**

### Components of the screen:

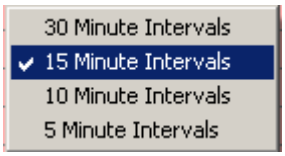
The first field at the top left of the screen shows the clinic location and resource that you are viewing. If you have several clinics running on the same day then you can swap between the clinics you are looking at by changing the option from this dropdown box.

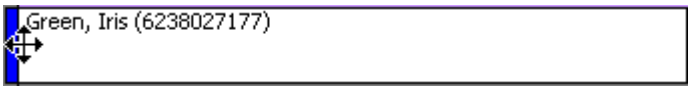



Below the location and resource is the date of the appointment you are viewing along with the number of appointment slots. You can click the right and left buttons to step forwards and backwards between the clinic days.




The majority of the left hand side of the screen is taken up with the appointment area. This comprises of a time line indicating the time of the day. The time line can be changed to show different time intervals by right clicking and selecting a different scale. The blue colour represents a non-appointment time e.g. lunch. The pink colour represents an appointment time and the cream area with the patients name represents an appointment.



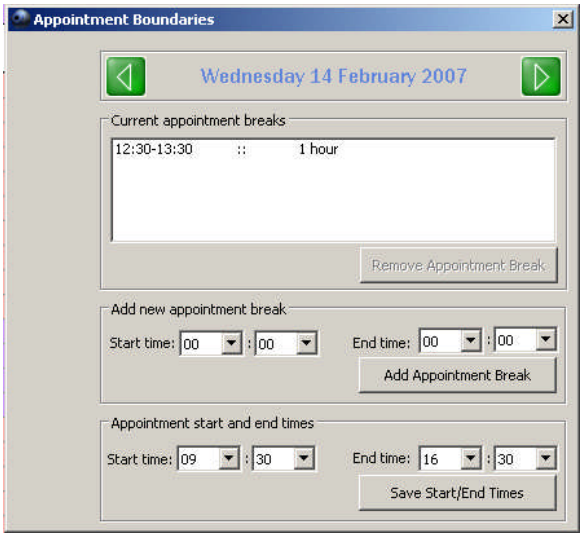

The appointment slot its self can be moved to a different time by hovering the mouse pointer over the blue border on the left until it changes to a cross arrow (See image above) and then dragging the appointment up or down the screen into a new time slot. The appointment length can also be changed in a similar way by hovering over the bottom border then dragging the appointment slot larger or smaller.

The Delete Appts button at the foot of the screen will remove any appointments scheduled in for that day; therefore this should only be used if you intend to cancel an entire day's clinic.

Confirm Episode Deletion
Please confirm that you wish to delete all episodes.
By provider - reason not specified
By Patient - reason not specified
OK
Cancel

On choosing this option you will be prompted to provide a reason for the deletion, by Provider or by Patient. This information will be recorded for the benefit of the annual report.

Set appointment Boundaries allows you to set additional non-appointment times E.g. set some administration time.




Selecting this option will open the appointment Boundaries dialog box seen here on the left. From this screen enter the times you would like to add a break then click the Add Appointment Break button, this will place a blue Non-appointment across the schedule window.

Clear

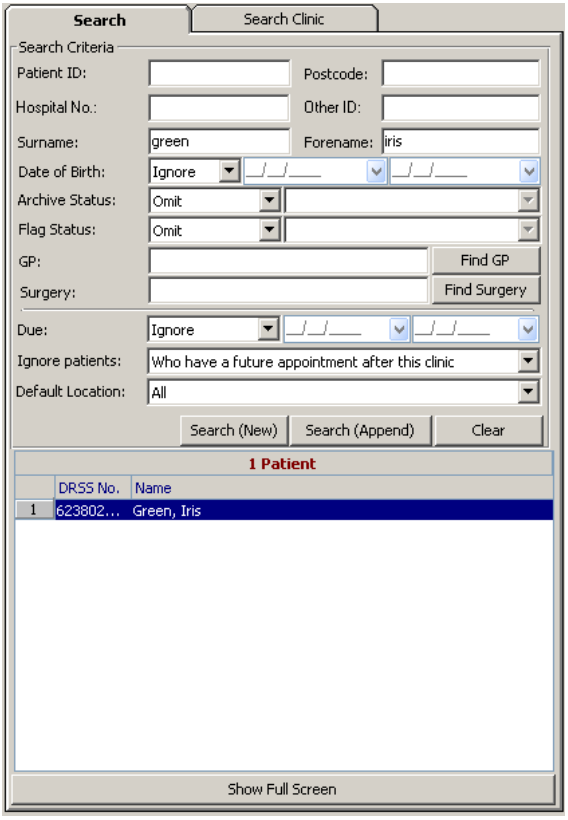
The clear button will remove any search results ready for a new search.

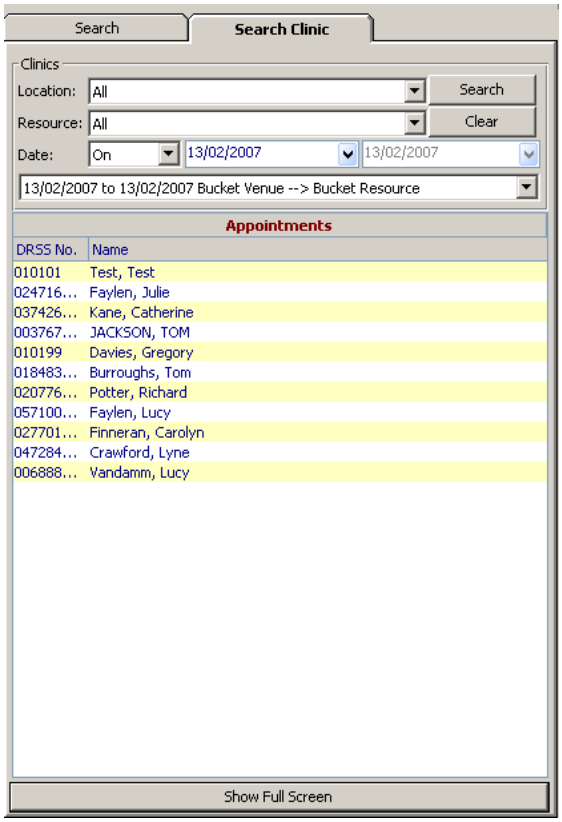
Report

The report button opens the report dialog box to enable you to send letter/ print reports (This will be discussed in more detail in the letters and documents section of this manual).

Suspend Clinic

On clicking the Suspend Clinic button all the scheduled appointments will be removed from the clinic view, the button will then change to Restore Clinic You can then navigate to a different day and restore the appointments to the new day.




The search half of the screen contains two tabs *Search* or *Search Clinic*. The search tab enables you to search for individual patients and then drag them over to a time slot on the appointments screen. If your project is sending out open appointments you should click the Search clinic tab then search for the date the letter was sent (This date should be on the patients letter) you can then find the patient from the list, the list can be sorted in ascending order by clicking on the column header. You can then drag them to the appointment time slot in the same way as the patient search.

**Cancelling Appointments:** for open appointments, you should drag the appointment back into the invite list so that the call & recall staff can see that the appointment was cancelled. This will prevent the patient getting missed.

# CAPTURE

Now we have booked appointments for our patients, the next stage is that they attend and go through the screening process. This involves some data capture such as Visual acuity, eye drops administered and possibly some information about their diabetes. We will then go on to capture the eye image via the camera and then proceed to grade the image.

The first job of the day would be to get up a list of the appointments for the days clinic, to do this click on the CAPTURE icon (Left) from the photographer menu group. This will open the capture query screen (Figure 30).

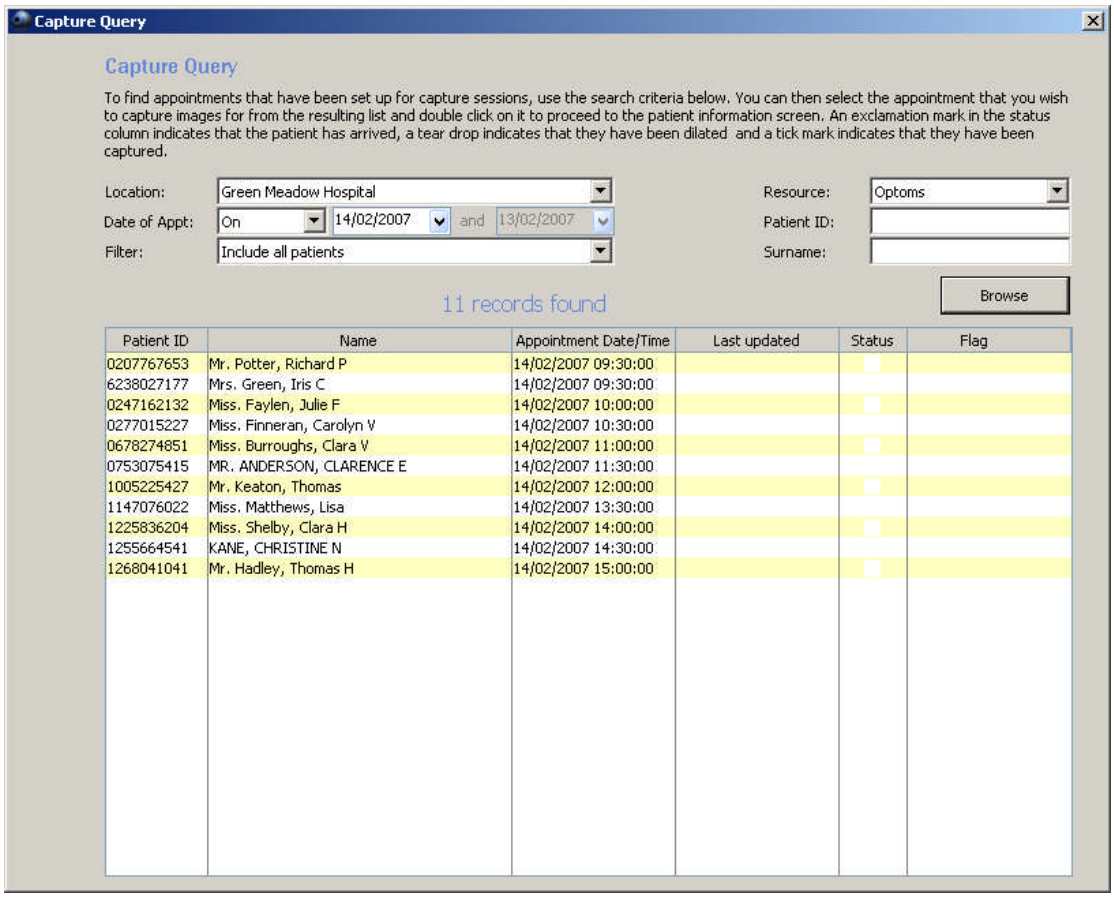

Capture Query
Capture Query
To find appointments that have been set up for capture sessions, use the search criteria below. You can then select the appointment that you wish to capture images for from the resulting list and double click on it to proceed to the patient information screen. An exclamation mark in the status column indicates that the patient has arrived, a tear drop indicates that they have been dilated and a tick mark indicates that they have been captured.
Location: Green Meadow Hospital
Date of Appt: On 14/02/2007 and 13/02/2007
Filter: Include all patients
Resource: Optoms
Patient ID:
Surname:
11 records found
Browse
Patient ID | Name | Appointment Date/Time | Last updated | Status | Flag
0207767653 | Mr. Potter, Richard P | 14/02/2007 09:30:00
6238027177 | Mrs. Green, Iris C | 14/02/2007 09:30:00
0247162132 | Miss. Faylen, Julie F | 14/02/2007 10:00:00
0277015227 | Miss. Finneran, Carolyn V | 14/02/2007 10:30:00
0678274851 | Miss. Burroughs, Clara V | 14/02/2007 11:00:00
0753075415 | MR. ANDERSON, CLARENCE E | 14/02/2007 11:30:00
1005225427 | Mr. Keaton, Thomas | 14/02/2007 12:00:00
1147076022 | Miss. Matthews, Lisa | 14/02/2007 13:30:00
1225836204 | Miss. Shelby, Clara H | 14/02/2007 14:00:00
1255664541 | KANE, CHRISTINE N | 14/02/2007 14:30:00
1268041041 | Mr. Hadley, Thomas H | 14/02/2007 15:00:00

**Figure 30 Capture Query Screen**

This screen is essentially a search screen where you enter the criteria of the patients you are looking for, this would usually be the current day's clinic. In the example above I have entered the criteria to return all the patients who have an appointment at Green Meadow Hospital on 14/02/07 and then clicked the Browse button.

**Location:** This will list all the clinic locations set up in the system.

**Date of Appt:** is a dropdown box where you can select On, Before, After or Between. You use this in conjunction with the date fields to its right to enter the date of the appointment.

**Filter:** This field allows you to filter out patients at a particular status of the appointment. The options include; "*Include all patients*"," *Exclude patients who have arrived*"," *Exclude patients who have been dilated*" or "*Exclude patients who have been captured*". Therefore a receptionist for example could filter out patients who have arrived, leaving the list showing only patients still to arrive.

| Last updated | Status |
|---|---|
| 08/11/2006 11:13:00 | ✓ |
| 08/11/2006 11:13:00 | ♦ |
| 08/11/2006 11:14:00 | ! |

The status column shows an icon of a tick, tear drop or explanation mark, showing the current status of the appointment.

| | |
|---|---|
| Tick | Treatment completed |
| Tear Drop | Dilation drugs applied |
| Explanation Mark | Arrived but not yet dropped |

**Resource:** This is a list of all the resources (PC's attached to cameras) set up in the system.

**Patient ID:** is the NHS or Local ID number to uniquely identify the patients.

**Surname:** is the surname of the patient.

Now we have a list of expected patients we can double click anywhere on the patients line to open the patient's demographics screen and go directly to the screening tab (figure 31), ready to start the screening process.

# Data Capture

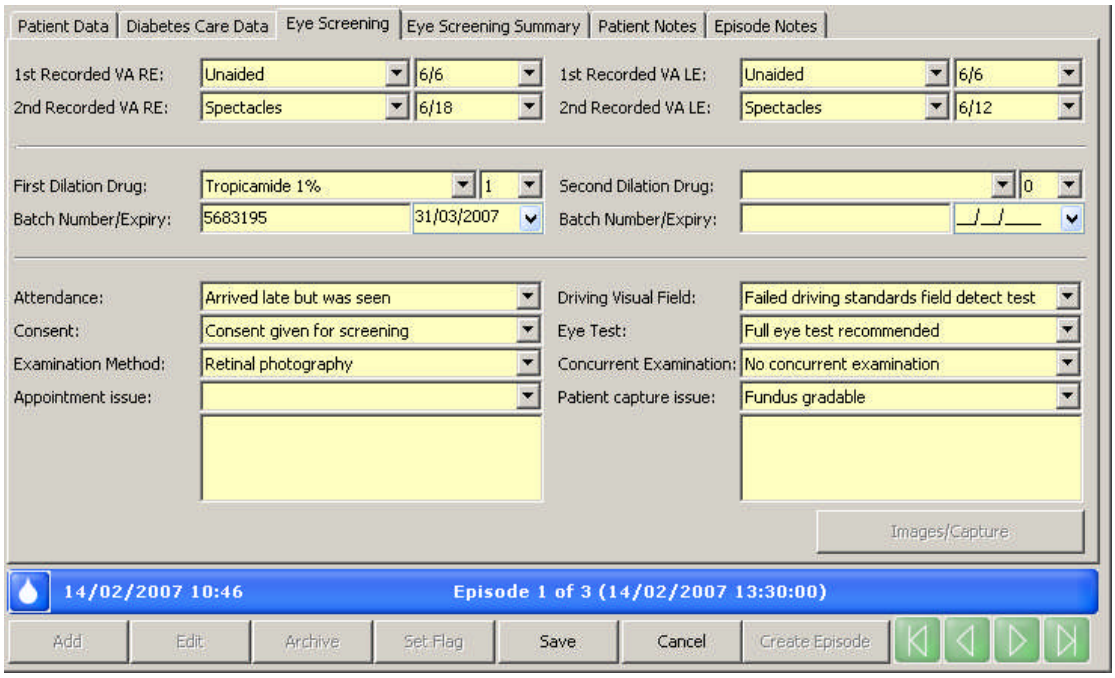


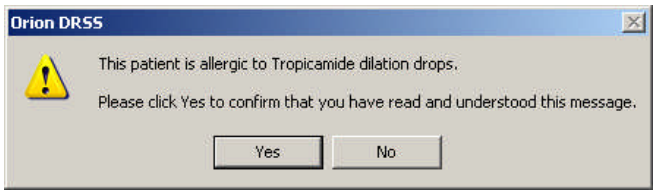

**Figure 31 Eye Screening Tab**

This is the screen that you would fill in during a screening appointment.

**1st Recorded VA RE:**
**1st Recorded VA LE:** These fields are where you record the visual acuity of the patient. They contain two fields each; the first is a dropdown option containing all the types of aids used during the test e.g. spectacles, pinhole etc. The field to its right is another dropdown box containing all the possible results. This list is locally customisable and can contain your preferred standard.

**2nd Recorded VA RE:**
**2nd Recorded VA LE:** These fields work in the same way as above but are intended for recording a seconded visual acuity should a second test be carried out. These fields are not mandatory.

**First Dilation Drug:** is where you select the drug type and concentration, to the right of this field is another dropdown box (Defaults to 1) where you can enter the number of drops applied. If a patient has an allergy to any of the dilation drugs then this can be recorded on the *Patient Data* tab. A message box will appear as you enter the eye screening tab if the patient is recorded as having an allergy to any of the drops used.


Orion DRSS
This patient is allergic to Tropicamide dilation drops.
Please click Yes to confirm that you have read and understood this message.
Yes
No

**Batch Number/Expiry Date:** It is now an NSC requirement that the batch number and expiry date is recorded for any dilation drugs applied. These fields are intended to record this information however recording this information can be time consuming; therefore after entering the batch number and expiry day for your first patient, this information will stay as a default for the remainder of your session. Note; you will need to update these fields when you open a new box of drops.

After entering the dilation drugs and recording the batch number and expiry date you should now press the Save button. This will place a tear drop icon on the status bar and also in the capture query screen along with recording the date and time the drops were given. This is useful for photographers during busy clinics as they will be able to see how long patients have had the drops in.

**Second Dilation Drug:**
**Batch Number/Expiry Date:** To the right of the first Dilation Drugs field is an identical set of fields labelled Second Dilation Drugs, these fields are to be used only if the first drugs were not successful and a second drug needs to be applied. These fields are not mandatory in the system.

**Attendance**: This field is to record the patient's attendance or not and includes options such as: *Patient arrived late but was seen, Patient cancelled* or *Patient did not attend*. The options in this dropdown box are locally customisable. Note: at the end of a day's clinic, any patients that did not attend should be recoded as such using this field.

**Consent:** Again it is a NSC requirement that you record that the patient has given consent for their screening program; therefore this field is mandatory. Failure to populate this field will result in you not having access to the capture screen. Options include; *Consent given for eye screening* and *Consent given for eye screening and research*.

**Examination Method:** is used to record the type of examination intended and would usually be Retinal Photography but other options include:

Retinal photography
Direct ophthalmoscopy
Indirect ophthalmoscopy
Slit lamp biomicroscopy
Scanning laser

**Appointment Issues:** Is used if there is an issue with the appointment, this could be a problem with the equipment or that you cannot take a picture due to an issue with the patient. A free text box below this field allows you to type up a fuller description of the problem. Options include:

Equipment functional but patient could not be screened
Equipment failure
Operator error
Administrative reasons
Medical contraindication
Other exception

**Driving Visual Fields:** is used to record that you have informed the patient that they will not be fit to drive after having the drops administered. Options include:

Passed driving standard detect test
Failed driving standard detect test

**Eye Test:** Normally used by optometrists to record that an eye test was given or recommended. Options include:

Full eye test recommended
Full eye test not recommended
Full eye test carried out

**Concurrent Examination:** is used to record the type of concurrent examination (If one took place) if for example the original examination method was not possible. Options include:

No concurrent Examination
Direct ophthalmoscopy
Indirect ophthalmoscopy
Slit lamp biomicroscopy

**Patient Capture Issues:** is used to record if it was not possible to take a photograph. The default is *Fundus Gradable*, however if a photograph is not possible this can be changed to *Fundus Upgradeable / Unclassified*. This would result in a "B" being entered on the status bar and the patient would go into a work flow of having an appointment made to attend a Slit lamp biomicroscopy clinic.

After all the relevant fields have been populated you are now ready to take the photographs. Click on the Image/Capture button.

# Image Capture

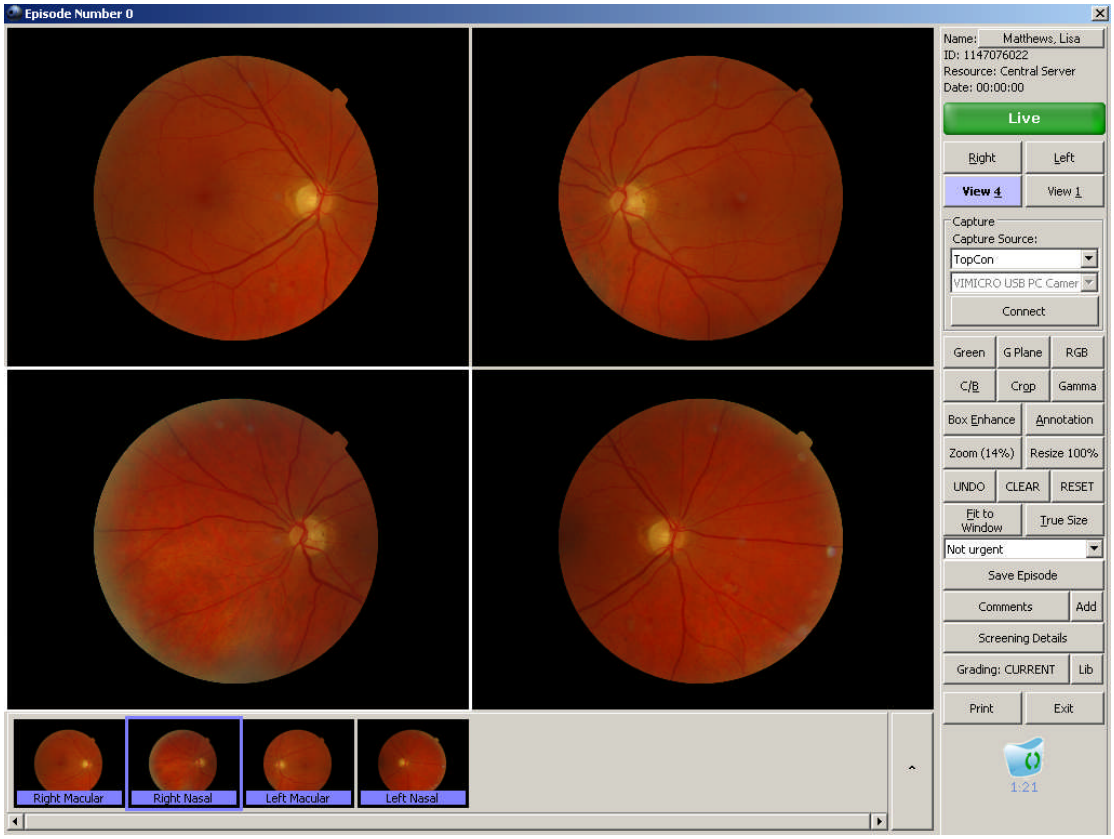
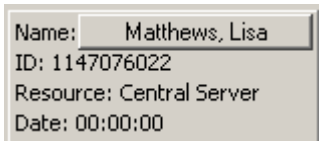



**Figure 32 Image Capture Screen**

Figure 32 shows the image capture screen after it has been populated with four digital images. I will first explain the components of the screen before going through the patient journey and what will happen as a patient attends the screening program.




In the top right of the screen is some basic information about the patient sitting in front of your camera, Name, ID (NHS Number or local authority number), Resource (Name of your centre) and current Date.

If you click the button containing the patients name this will open the Quick Patient Information screen (figure 33). This is a view only screen showing some basic patient demographics without the need of exiting the capture screen. The screen contains such information as Name, Address, Visual Acuity, Allergies etc. (see figure 33 for a full list of fields included)

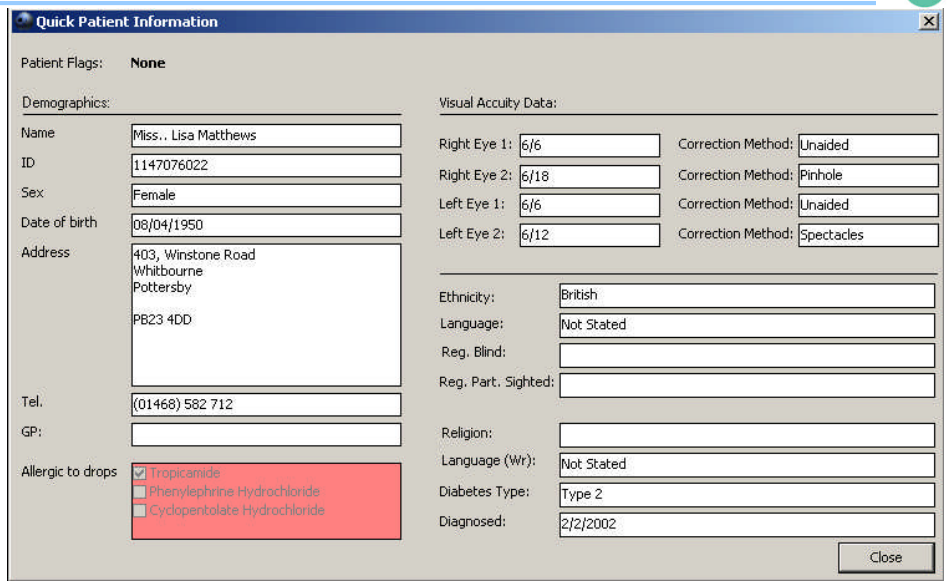
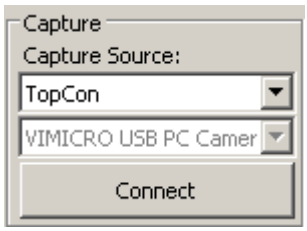



**Figure 33 Quick Patient Information**

The green bar under the patient details is the patient status bar and reads in this case “Live” however if a patient has been archived the button would be red in colour and read Archived. By hovering the mouse pointer over the status bar a shortcut showing the reason for the archive will be displayed. This may for example read “Patient Deceased” which would be useful if a grader was grading the image retrospectively and the patient had since passed away.

This group of buttons enables you to switch between viewing the Right or Left eye and between viewing a single image or splitting the screen into 4 and viewing up to four images at one time. The buttons that have been depressed will change to blue indicating that this button is being used.




This capture group refers to the camera and camera software you are using. The two dropdown fields would normally default to the correct camera however if you have several cameras in your clinic, you may need to select your camera before clicking on the Connect button. You must click on the Connect button before the camera will talk to the DRSS software. When you do this the button will change to Disconnect and the word *Ready* will appear in the top right hand of the screen. You are now ready to take the pictures. After taking several (Normally 4) successful images click the Disconnect button before labelling and saving the images.

The next group of buttons are filter or manipulation buttons enabling you to view the images in different ways. It is important to understand that you are not affecting the original image when using these buttons and you can always return to the original image by clicking on the Reset button. You can however save any changes that you make by right clicking the image and selecting "Burn annotation onto image and save" this will create an additional image without affecting the original image.

Green

The Green button removes reds and blues from the image giving it a green tint. This is sometimes used to get a better definition of the blood vessels against the back of the eye.

G Plane

The G Plane button removes all colours, giving the image monotone or gray appearance, again this sometimes helps the definition of the image.

RGB

RGB is the abbreviation for Red, Green and Blue. Clicking on this button brings up a slider bar next to each colour enabling you to adjust the amount of red, green or blue in the image.

C/B

C/B stands for Contrast/ Brightness; this allows you to adjust the contrast or brightness of the image. To adjust the contrast of the image click and slide the mouse from left to right over the image. To adjust the Brightness, click and slide the mouse vertically over the image.

Crop

Crop allows you to crop the image. To use this button, click then drag a rectangle over the image to crop down to that size.

Gamma

Gamma automatically adjusts the middle tones of the image without affecting the blacks or whites (Similar to contrast).

Box Enhance

Box Enhance allows you to select an area of the image and view that selected area in negative colour.

Annotation

The annotation button opens up an annotation tool box (fig 34) which allows you draw and make comments on the image. Note: after annotating the image you should right click and select "*Burn annotation onto image and save"* in order to save your comments.

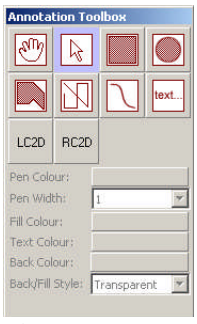
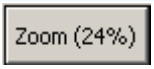



**Figure 34**




The zoom button allows you to zoom in and out of the image in 25% increments. A left mouse click will zoom in and a right mouse click will zoom out.

Resize 100% will increase the size of the image by 100%, this will make the image very large and could distort the image if use too much. (True size may be a better option).

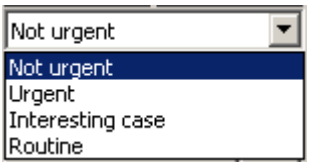
Undo will undo the last action taken (one step backwards).

Clear will clear the image from the viewing screen so that you can replace it with another image.

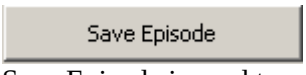
Reset will remove any filters/ effects that you have added to the image and return it to its original state.

Fit to Window will resize the image so that it will fit within the viewing area.

True Size will size the image to its original size (Possibly 2 mega pixels depending on your camera) this as the effect of zooming in as fare as you can without distortion. At this size you will not see the full image on your screen therefore you will need to drag it around the screen to focus in on the area you are interested in. To do this click and hold the mouse (The curser will look like a grasping hand) then move the image around the screen.

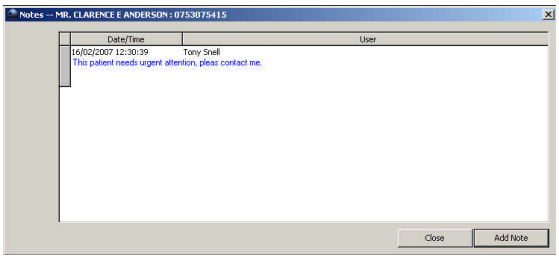



This drop down box allows you to mark a set of images as Urgent, Interesting Case or Routine. The default option is Not urgent and can be changed to any of the other options to bring attention to the set of images.




Save Episode is used to save the images to DRSS, before clicking this button images can be dragged to the bin without saving. You will be prompted to save if you attempt to close the image window without saving.

Comments allows you to add comments about the images, click the add button and then add your comments. The date and time the comment along with who made the comment will automatically be added to the note.



Add

This Add button allows the user in import external images against the current episode. Clicking on the Add button will open a standard windows image import dialog box, from hear navigate to the image you which to import and then click on the Save button. The image will then appear as a thumbnail in the same way as if you had just taken the picture with the camera.

Screening Details

Clicking on this Screening Details button opens the "Screening Details" dialog box (Fig 35) this screen brings reflects the same information shown on the Eye Screening tab. This information can be entered either here or from the eye screening tab depending on you job role and the most convenient for your self. **Technical Failure:** would be changed to Fundus Unreadable if the images are not suitable for grading, the Additional Details text box allows you to add free text details. **Exceptions:** is a dropdown box of reasons why the appointment did not take place and again the additional information is free text where you can quantify the reason for the exception.

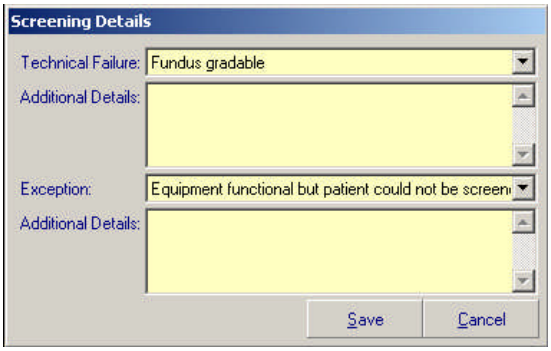



**Figure 35**

Grading: CURRENT

Grading: CURRENT button opens a grading form enabling you to grade the images. Only users that have grading authority will have access to this button. Full details of the grading form will be discussed in the Grading section of this manual.

Lib

The Lib button (Abbreviation for Library) opens a library of stock bench mark images that can be loaded locally via the system administrator. This button can be useful when comparing your image against an image in the library. Hover the mouse thumbnail to see the control/tip text showing the name of the image.

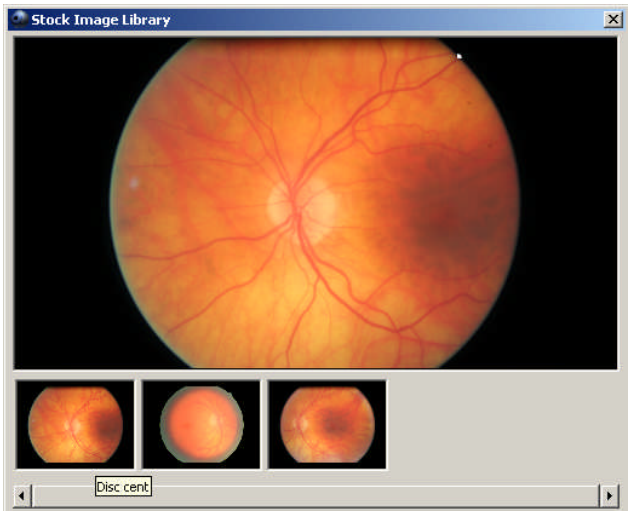



**Figure 36**

Print

Use the print button to print the image on screen. Note: printed images are not gradable quality however may be useful to produce a hard copy of an image to keep in patients files or to give to patient as a souvenir.

The Exit button will close the image capture screen. A message box prompting you to save the images will appear if you have not already done so.

The recycle bin is available to discard the images (before saving). If you have an image that is not suitable for grading and you wish to discard it at take another one. Click and hold the thumbnail image then drag it to the recycle bin and release. The image will be deleted from DRSS.

If the ^ button on the thumbnail bar is active like the one to the left, then this is indicating that there are images from a previous screening already in DRSS for this patient. Clicking this button will open an additional thumbnail bar showing the images from the previous episode (figure 37). You can then select the image you would like to view and then click the Use button, this will bring the image down onto the first thumbnail bare allowing you to compare images from the previous episode against a current image.

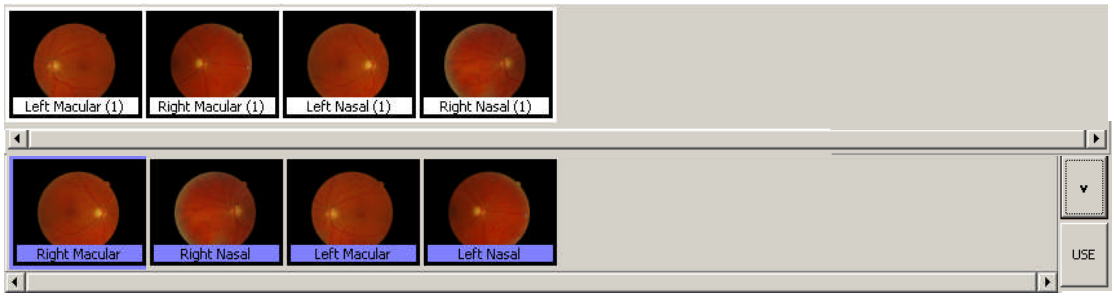



**Figure 37 Viewing images from a previous episode**

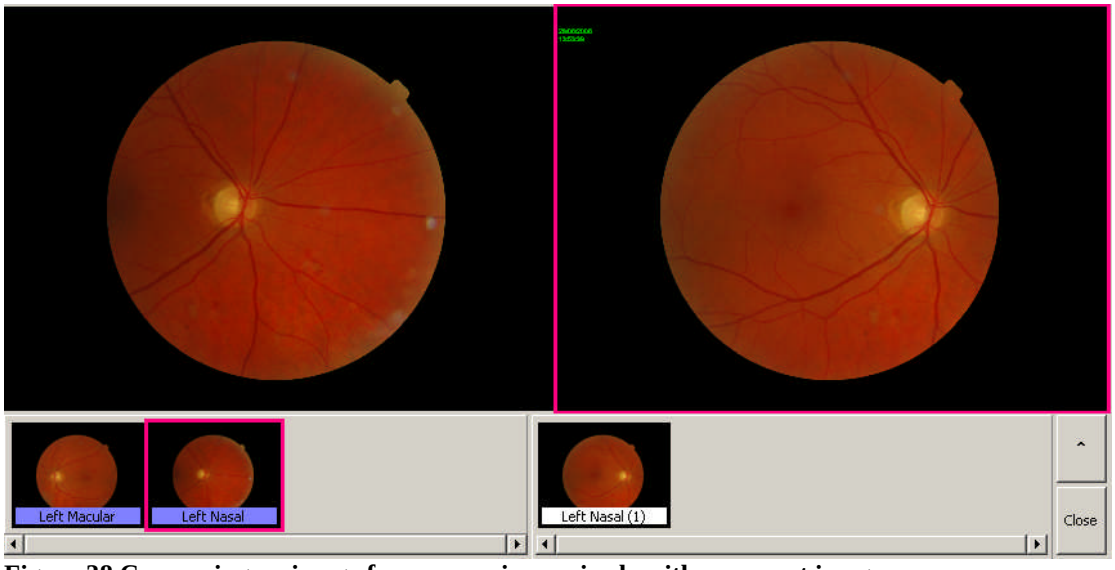



**Figure 38 Comparing an image from a previous episode with a current image**

# GRADING

Grading the images may be done immediately after the capture of the photographs or retrospectively depending on your business processes, workload and grading authority/Level. If you are a grader and wish to grade the images immediately after the capture (Possibly while the patient is still present) the clicking on the Grade: CURRENT button from within the capture screen and this will open the grading form (Figure 39).

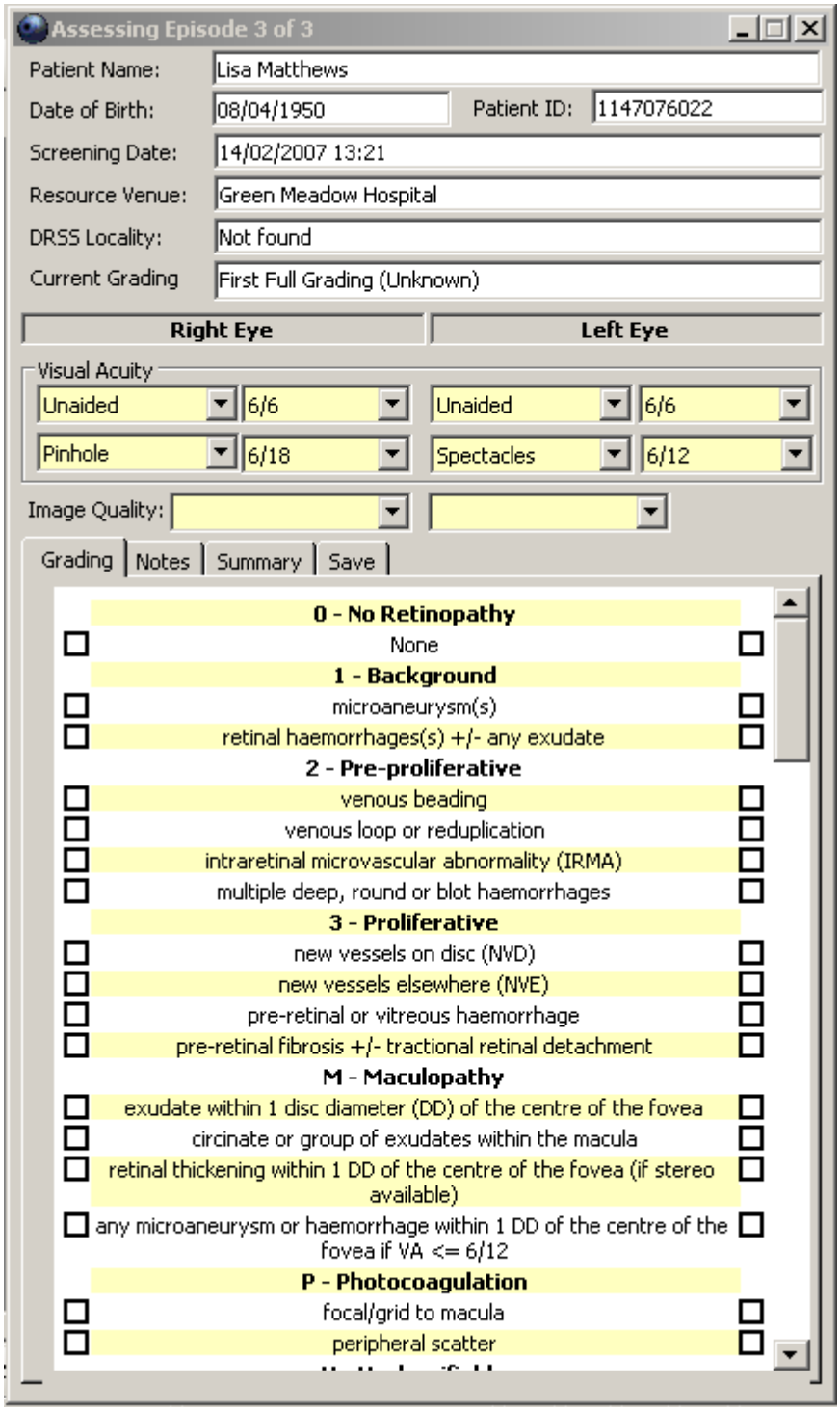
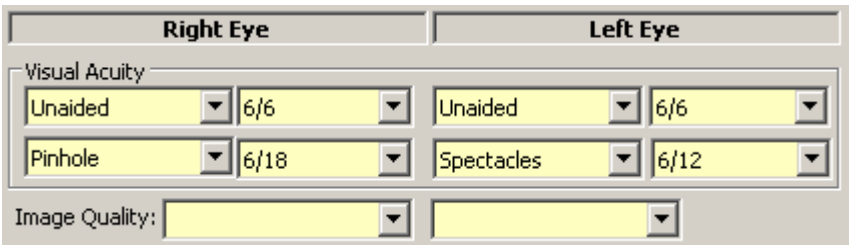

Assessing Episode 3 of 3
Patient Name: Lisa Matthews
Date of Birth: 08/04/1950
Patient ID: 1147076022
Screening Date: 14/02/2007 13:21
Resource Venue: Green Meadow Hospital
DRSS Locality: Not found
Current Grading First Full Grading (Unknown)
Right Eye
Left Eye
Visual Acuity
Unaided 6/6
Unaided 6/6
Pinhole 6/18
Spectacles 6/12
Image Quality:
Grading
Notes
Summary
Save
0 - No Retinopathy
None
1 - Background
microaneurysm(s)
retinal haemorrhages(s) +/- any exudate
2 - Pre-proliferative
venous beading
venous loop or reduplication
intraretinal microvascular abnormality (IRMA)
multiple deep, round or blot haemorrhages
3 - Proliferative
new vessels on disc (NVD)
new vessels elsewhere (NVE)
pre-retinal or vitreous haemorrhage
pre-retinal fibrosis +/- tractional retinal detachment
M - Maculopathy
exudate within 1 disc diameter (DD) of the centre of the fovea
circinate or group of exudates within the macula
retinal thickening within 1 DD of the centre of the fovea (if stereo available)
any microaneurysm or haemorrhage within 1 DD of the centre of the fovea if VA <= 6/12
P - Photocoagulation
focal/grid to macula
peripheral scatter

**Figure 39 Grading Form**

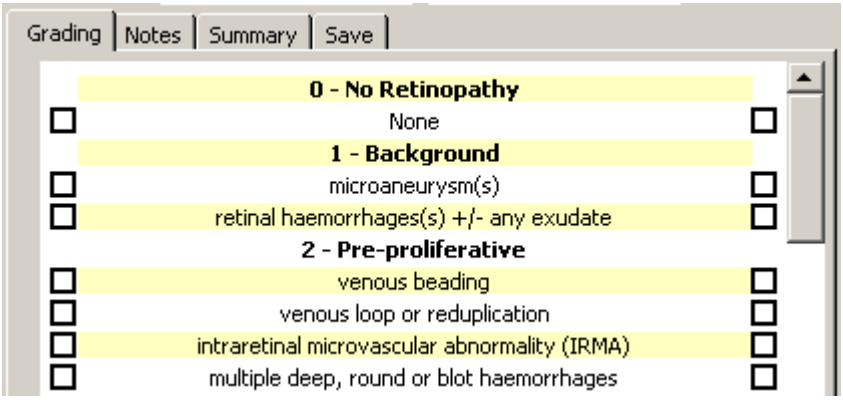
The top section of the grading form contains some basic demographic information about the patient, screening date, location and current grading level (First grade, second grade or arbitration grade).




Below the *Current Grading Level* field the screen is split down the middle on the left is the header **Right Eye**, everything under this refers to the right eye and similarly on the right is the header **Left Eye**, everything under this refers to the left eye. The reason that the Right Eye is on the left and so on, is because when examining a patient there right eye is on your left.

**Visual Acuity:** is pulled through from the VA fields on the eye screening tab.

**Image Quality:** are mandatory fields and refers to the quality of the images taken. The options include *Good, Faire or Poor*. If poor is selected then the tick boxes on the grading form disappear making it not possible to grade from a poor image. If the Image Quality field is not populated then you will not be able to save the finished grading report.




**Grading Tab:** is an electronic version of your grading form. This form contains all the possible scenarios needed for diabetic screening. The form can be locally customised therefore your form may not look exactly the same as the screen shot above. To the right of the form is a scroll bar allowing you to scroll down the form revelling more tick options. To use the form simply click to tick the relevant issue. Note: the right side of the form refers to the left eye and visa versa as discussed above.

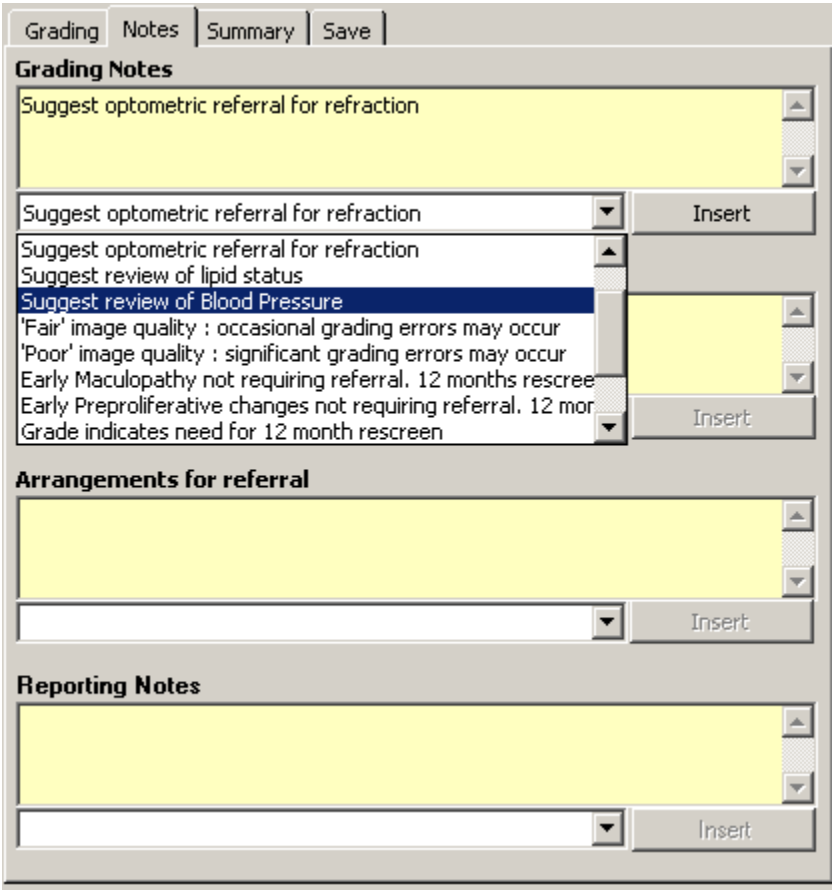



**Figure 40 Notes Tab**

**Notes Tab:** is split into four areas allowing you to enter notes for each of the following sections:

**Grading Notes**
**Reason for referral**
**Arrangements for referral**
**Reporting Notes**

The cream area allows you to enter free text; alternatively you can click the dropdown box below each field to see a list of pre selected sentences. Select the appropriate sentence and click on insert.

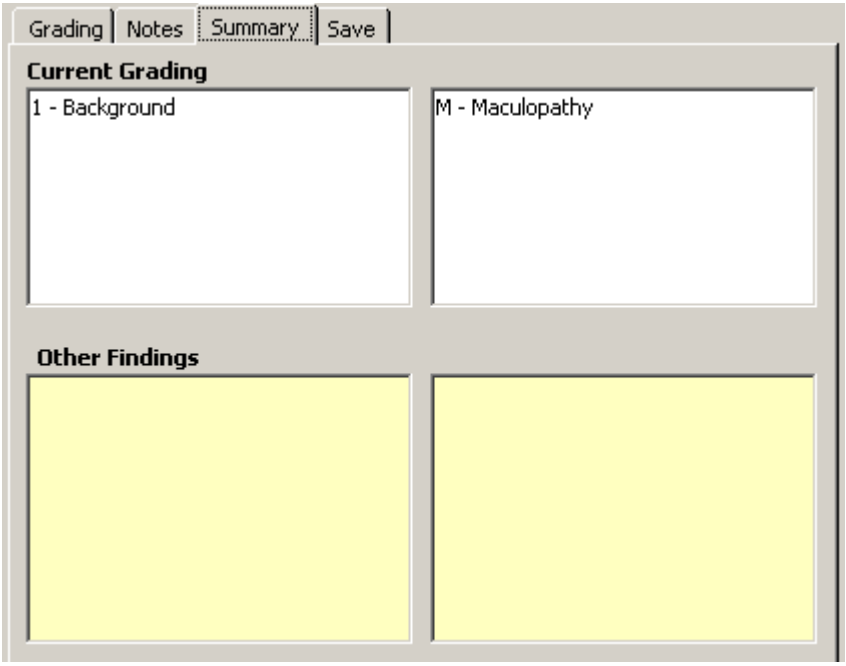



**Figure 41 Summary tab**

**Summary tab:** is split into two sections; *Current Grading* which pulls thorough what you have ticked on the grading form (View only). *Other Findings* is free text for you to type any other findings during the examination.

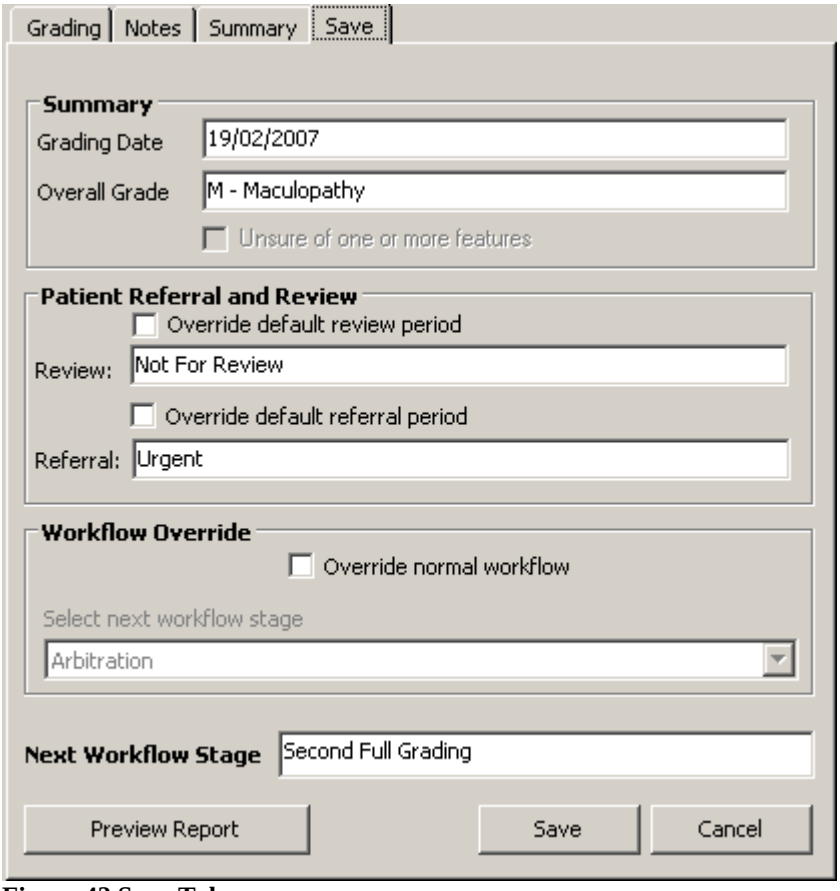



**Figure 42 Save Tab**

**Save Tab:** allows you to overview your grading before finalising it by clicking on the save button.

*Summary Section*: shows the grading date and overall grade.

*Patient Referral and Review:* This is calculated depending what tick boxes you ticked on the grading form and should not need amending providing your projects workflow process are set up correctly. However each field has a corresponding *Override default* tick box. Using this override option allows you to edit the corresponding field e.g. a 12 month review could be upgraded to a 6 month review (It would not be recommended to downgrade a default).

*Workflow Override:* Again the next workflow stage will be automatically calculated e.g. second grader, arbitration grader etc. however this can be overridden using the override tick box.

*Next Workflow Stage:* calculated to show the next stage of the grading.

The Preview Report button allows you to access (Print or view) the grading report. The grading report is a hardcopy report summarising what you have found during the grading. How the report looks is locally setup but would normally include a letter to the patient and a letter to the patients GP. More information on how to print and preview reports will be covered in the Letters and documents section.

The Save button is used to finalise and save your completed grading.

**Note:** This button will not be activated if you have not completed information for booth Right and left eye.

**Warning: After saving a grading you will not be able to edit or amend it in any way. If you accidentally save a grading you must contact your system administrator and ask them to void it. You can then grade the images again.**

The Cancel button allows you to exit the grading form without saving your work.

**Figure 43 Grading Menu**

At the beginning of this section I mentioned that you can either grade an image immediately after taking the image or retrospectively (You may be a secondary or arbitration grader and need to access any images that need to be graded at your level). The following few paragraphs will explain some of the tools used to access images in the system awaiting grading or just access the images.

**Request Grading:**

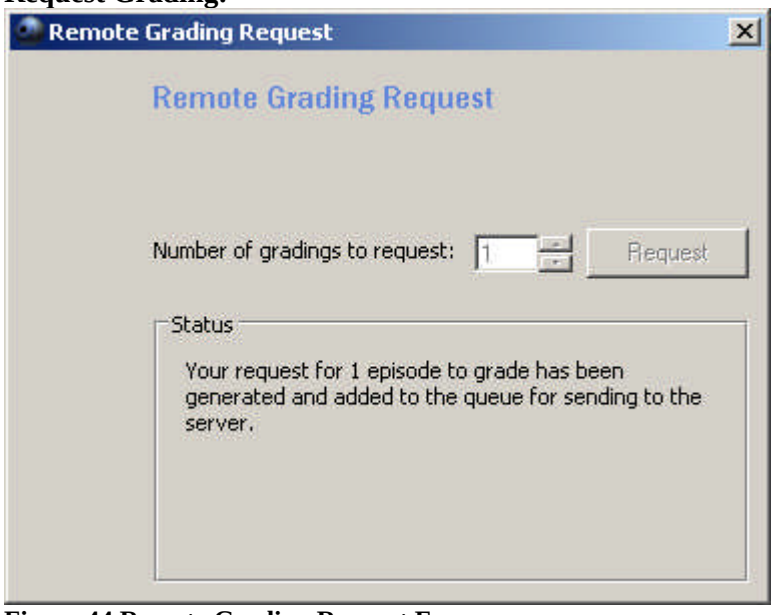

Remote Grading Request
Remote Grading Request
Number of gradings to request:
1
Request
Status
Your request for 1 episode to grade has been generated and added to the queue for sending to the server.

**Figure 44 Remote Grading Request Form**

If you are a grader but do not have direct access to the central server database e.g. you could be a privet optometrist or you may do some grading from home, you can use the Request Grading icon to open the Remote Grading Request form (Figure 44). This allows you enter a number of grading that you would like to download to your local PC. You can then grade them and the results will automatically be uploaded back to the central PC after completion or the images will automatically return after a set period (Normally 3 days) if not graded.

**Note:** This facility will only be available with certain topologies (How your network is setup).

## Grade Image:

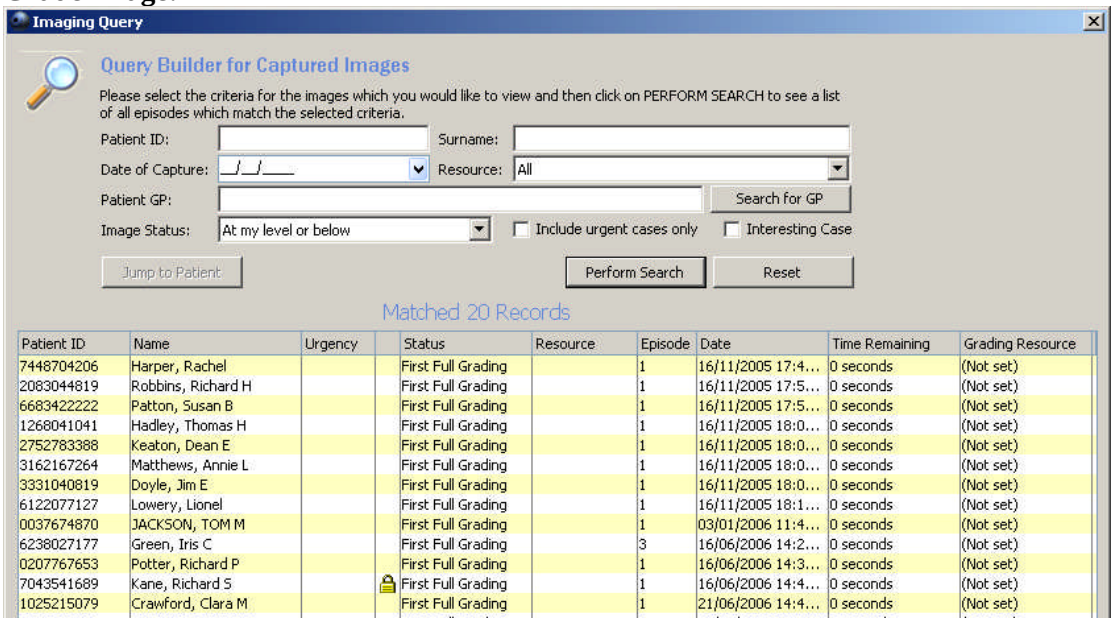

Imaging Query
Query Builder for Captured Images
Please select the criteria for the images which you would like to view and then click on PERFORM SEARCH to see a list of all episodes which match the selected criteria.
Patient ID:
Surname:
Date of Capture: __/__/____
Resource: All
Patient GP:
Search for GP
Image Status: At my level or below
Include urgent cases only
Interesting Case
Jump to Patient
Perform Search
Reset
Matched 20 Records
Patient ID | Name | Urgency | Status | Resource | Episode | Date | Time Remaining | Grading Resource
7448704206 | Harper, Rachel | | First Full Grading | | 1 | 16/11/2005 17:4... | 0 seconds | (Not set)
2083044819 | Robbins, Richard H | | First Full Grading | | 1 | 16/11/2005 17:5... | 0 seconds | (Not set)
6683422222 | Patton, Susan B | | First Full Grading | | 1 | 16/11/2005 17:5... | 0 seconds | (Not set)
1268041041 | Hadley, Thomas H | | First Full Grading | | 1 | 16/11/2005 18:0... | 0 seconds | (Not set)
2752783388 | Keaton, Dean E | | First Full Grading | | 1 | 16/11/2005 18:0... | 0 seconds | (Not set)
3162167264 | Matthews, Annie L | | First Full Grading | | 1 | 16/11/2005 18:0... | 0 seconds | (Not set)
3331040819 | Doyle, Jim E | | First Full Grading | | 1 | 16/11/2005 18:0... | 0 seconds | (Not set)
6122077127 | Lowery, Lionel | | First Full Grading | | 1 | 16/11/2005 18:1... | 0 seconds | (Not set)
0037674870 | JACKSON, TOM M | | First Full Grading | | 1 | 03/01/2006 11:4... | 0 seconds | (Not set)
6238027177 | Green, Iris C | | First Full Grading | | 3 | 16/06/2006 14:2... | 0 seconds | (Not set)
0207767653 | Potter, Richard P | | First Full Grading | | 1 | 16/06/2006 14:3... | 0 seconds | (Not set)
7043541689 | Kane, Richard S | | First Full Grading | | 1 | 16/06/2006 14:4... | 0 seconds | (Not set)
1025215079 | Crawford, Clara M | | First Full Grading | | 1 | 21/06/2006 14:4... | 0 seconds | (Not set)

**Figure 45 Query Builder for Captured Images**

The Grade Image icon opens the Query Builder for Captured Images (Figure 45), this is used to view all the images in the system awaiting grading. A normal search would be to select "At my level" in the Image Status field and then click the Perform Search button. This would list all the images waiting grading at your grading level, you can then click on anyone in the list to access the images (as in figure 32) and start grading. However this form is a query Builder and works in a similar way to the patient search form, therefore if you would like to find a specific patient using the *Patient ID* or *Surname*, or patients that have been captured on a specific *Date of Capture* or at a specific *Resource* then enter the appropriate criteria and click on the Perform Search button to return a list of theses patients.

**Warning: It is not recommended that you find images by Date or Resource regularly; this could result in you missing a day and the images not getting graded.**

**Image Status:** This dropdown box includes:

At my level or below
At my level
All

The recommended would be "At my level", if you choose "At my level or below" for example (and you are an arbitration grader) you could run the risk of grading a Patient and then not having another higher level grader who could arbitrate it.

Reset

The Reset button clears the list allowing you to perform another search.

Jump to Patient

Jump to Patient will open the images of the selected patient alternatively double clinking on a patient name will do the same action.

## Image Library:

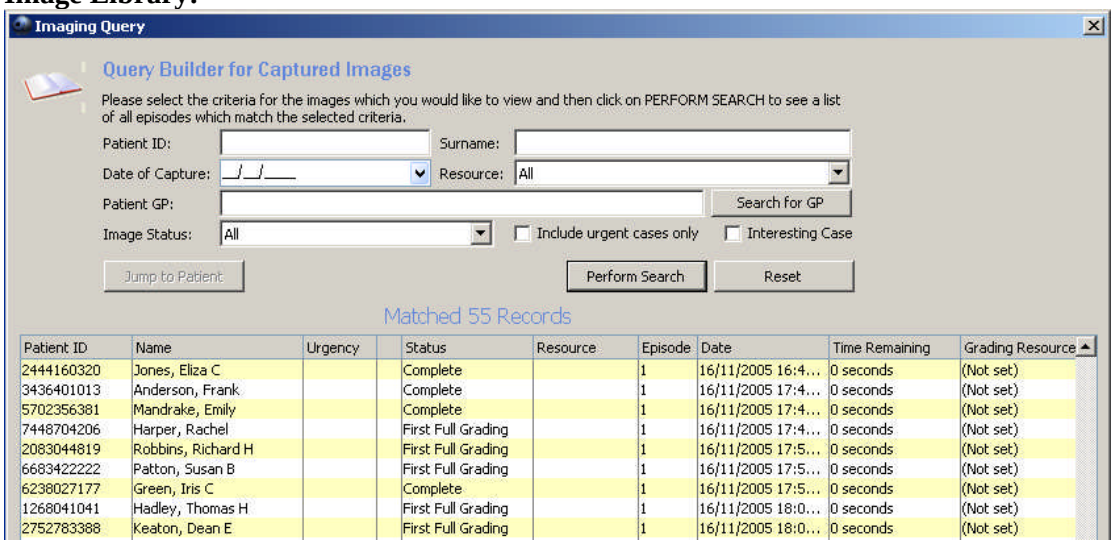

Imaging Query
Query Builder for Captured Images
Please select the criteria for the images which you would like to view and then click on PERFORM SEARCH to see a list of all episodes which match the selected criteria.
Patient ID:
Surname:
Date of Capture: __/__/____
Resource: All
Patient GP:
Search for GP
Image Status: All
Include urgent cases only
Interesting Case
Jump to Patient
Perform Search
Reset
Matched 55 Records
Patient ID | Name | Urgency | Status | Resource | Episode | Date | Time Remaining | Grading Resource
2444160320 | Jones, Eliza C | Complete | 1 | 16/11/2005 16:4... | 0 seconds | (Not set)
3436401013 | Anderson, Frank | Complete | 1 | 16/11/2005 17:4... | 0 seconds | (Not set)
5702356381 | Mandrake, Emily | Complete | 1 | 16/11/2005 17:4... | 0 seconds | (Not set)
7448704206 | Harper, Rachel | First Full Grading | 1 | 16/11/2005 17:4... | 0 seconds | (Not set)
2083044819 | Robbins, Richard H | First Full Grading | 1 | 16/11/2005 17:5... | 0 seconds | (Not set)
6683422222 | Patton, Susan B | First Full Grading | 1 | 16/11/2005 17:5... | 0 seconds | (Not set)
6238027177 | Green, Iris C | Complete | 1 | 16/11/2005 17:5... | 0 seconds | (Not set)
1268041041 | Hadley, Thomas H | First Full Grading | 1 | 16/11/2005 18:0... | 0 seconds | (Not set)
2752783388 | Keaton, Dean E | First Full Grading | 1 | 16/11/2005 18:0... | 0 seconds | (Not set)

**Figure 46 Query Builder for captured Images**

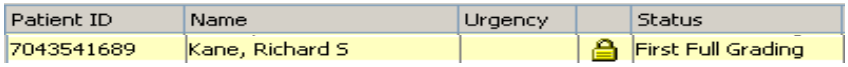
The image Library icon opens another query builder for captured Images (Figure 46) however this screen will also include completed grading allowing you to retrospectively view already graded images.

The columns returned when performing a search include:

**Patient ID**: is the NHS number or local Authority number that uniquely identifies the patient.

**Name:** Includes the patient's full name, Surname, First name and initial.

**Urgency:** If any images have been flagged as urgent then this column will be populated allowing you to grade theses images first.




The next (unlabeled column) will contain a padlock icon if this image is open by another user which will prevent you from editing the record until the other user if finished and closes the record.

Orion DRSS
Another computer is currently using these images. You will only have READ permission.
If no other workstations are currently viewing these images then please contact your system administrator to reset the server.
Do you want to continue to view the images?
Yes
No

**Status:** Shows the status of the images e.g. First, Second, Arbitration Grading or completed.

**Resource:** shows which resource the images where captured at.

**Episode:** Shows which episode/visit the images refer to.

**Date:** shows the date and time the images where captured.

**Time Remaining:** shows the time remaining to grade the image if you have downloaded the images to a local machine as described in the '*Request Grading*' section.

**Grading Resource:** shows which grading resource was used at the point of grading (if set).

**Grading Reports:**

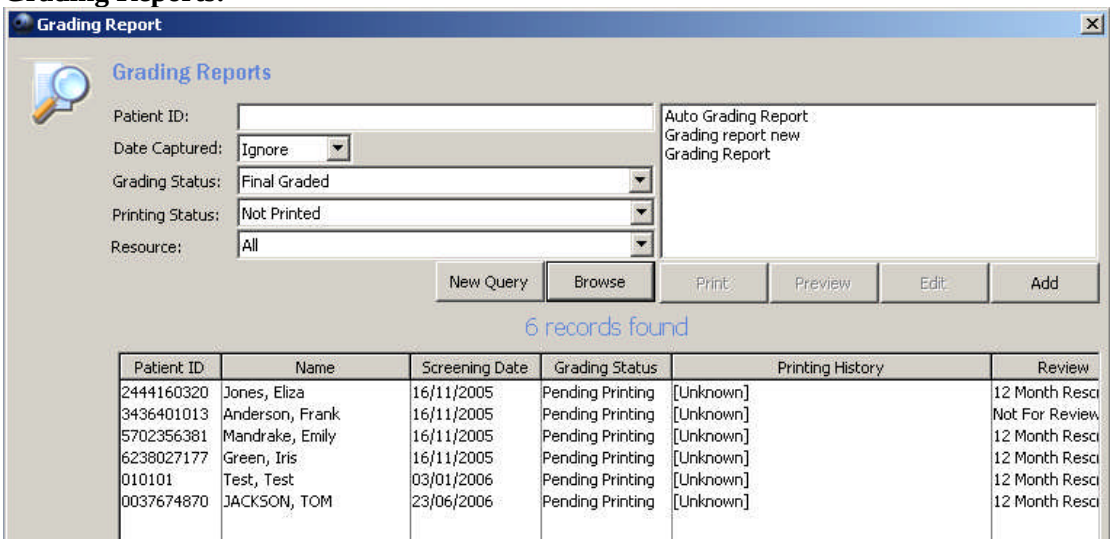



**Figure 47 Grading Report Screen**

The Grading Reports screen allows you to view completed grading at various printing status then produce a number of reports. From this screen (Figure 47) the person who's job it is to print the grading reports can enter criteria to list completed grading where the Grading Status is pending. By then selecting "Auto Grading Report" and clicking 'Print' the appropriate report will be printed according the outcome of the grading. Depending on the letter template your Trust requested, a normal report would produce to letters, one for the GP and another addresses to the patient.